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MARKETING and TRANSPORTATION SITUATION



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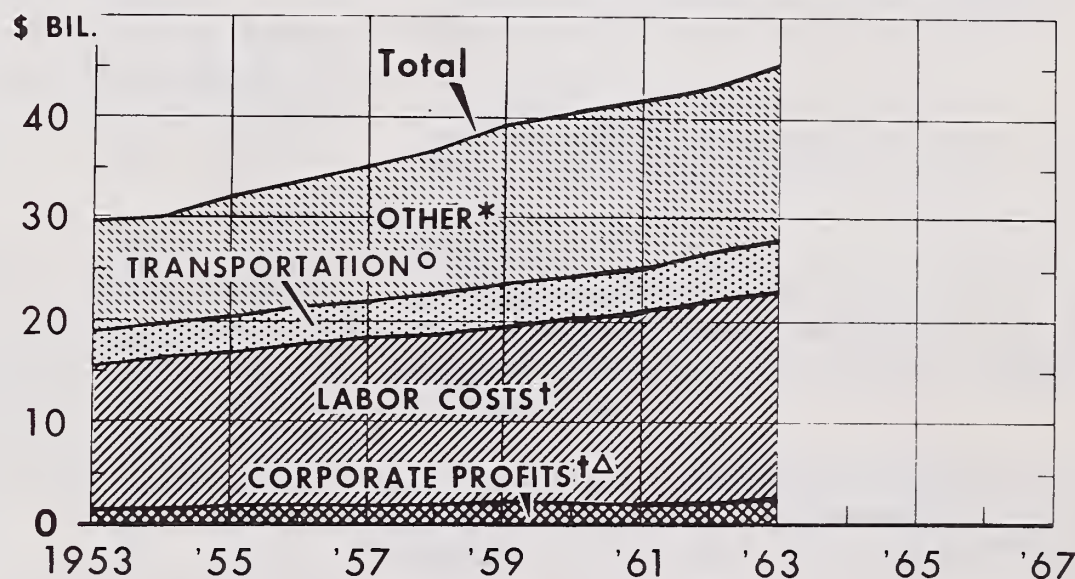
MTS-154

For Release August 13, P.M.

AUGUST 1964

The bill for marketing domestic farm-originated food products bought by U.S. civilian consumers amounted to \$45 billion in 1963--5 percent more than in 1962. This increase was slightly larger than the average annual increase during the last 10 years. The volume of products handled and marketing charges per unit of product each increased 3 percent from 1962 to 1963. Each group of costs in the marketing bill increased last year. Labor costs accounted for 45 percent of the marketing bill in 1963; rail and truck transportation charges for 11 percent; corporate profits (before taxes) for 5 percent; and other costs and noncorporate taxes for 39 percent.

COMPONENTS OF TOTAL FARM FOOD MARKETING BILL



FOR DOMESTIC FARM FOODS BOUGHT BY U. S. CIVILIAN CONSUMERS.
* OTHER COSTS AND NONCORPORATE PROFITS. ○ INTERCITY RAIL AND TRUCK ONLY.
† EXCLUDES INTERCITY TRANSPORTATION FIRMS. △ PROFITS BEFORE TAXES.

U. S. DEPARTMENT OF AGRICULTURE

NEG. ERS 409 X-64 (7) ECONOMIC RESEARCH SERVICE

IN THIS ISSUE

- Consumer Expenditures for Food
- Marketing Bill for Farm Products
- Employment in Marketing Farm Products and Manufacturing Farm Supplies and Equipment
- Market for Food in Schools
- Marketing Sweetpotato Flakes

Published quarterly by
ECONOMIC RESEARCH SERVICE • U. S. DEPARTMENT OF AGRICULTURE

STATISTICAL SUMMARY OF MARKET INFORMATION

1/ Average quantities of farm food products purchased per family by wage-earner and clerical-worker families in 1952. Estimates of the farmer's share do not allow for Government payments to producers. 2/ Data for average family purchases in 1950 of 25 articles of cotton clothing and housefurnishings divided by number of pounds of lint cotton required for their manufacture; see U. S. Dept. Agr. Mktg. Res. Rpt. 277. 3/ Data for package of regular-sized popular brand cigarettes; farm value is return to farmer for 0.065 lb. of leaf tobacco of cigarette-types; data for year ended June 30, 1964. 4/ Seasonally adjusted annual rates, calculated from Dept. of Commerce revised data. Second quarter 1964 data are preliminary. 5/ Dept. Labor. 6/ Weighted composite earnings in food processing, wholesale trade, retail food stores, calculated from data of Dept. Labor. 7/ Seasonally adjusted, Dept. Commerce. Sales data for 1963 are averages of monthly totals (unadjusted). Inventory data for 1963 are book values at end of year (adjusted). 8/ Seasonally adjusted, Board of Governors of Federal Reserve System. 9/ Converted from 1910-14 base.

THE MARKETING AND TRANSPORTATION SITUATION

Approved by the Outlook and Situation Board, August 4, 1964

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SUMMARY

Unit charges for marketing farm-originated food products averaged about the same in the second quarter this year as in the first quarter and in the second quarter of 1963. Increased charges for marketing some products about offset decreases for others.

Prices farmers received for these products averaged 1 percent lower in the second quarter this year than in the preceding quarter, mainly because of lower prices for beef cattle, milk, chickens, eggs, wheat, and several fresh vegetables. Prices, however, were 1 percent higher in the second quarter than a year earlier, principally because of higher prices for apples, grapefruit, oranges for processing, potatoes, sweetpotatoes, and several fresh vegetables.

Changes in farm prices and marketing charges have been too small to affect significantly the retail cost of the market basket of farm foods during the last year. The retail cost in the second

quarter was less than one-half of 1 percent different from what it was in the previous quarter and in the second quarter last year.

Farmers received an average of 36 cents of the dollar consumers spent for farm foods in retail food stores in April-June of this year, 1 cent less than in January-March but the same share as a year earlier.

Per capita expenditures for food rose to a seasonally adjusted annual rate of \$410 in the first quarter this year compared with \$402 in the preceding quarter and \$401 in January-March 1963. Expenditures for food averaged \$401 per person in 1963, 1 percent more than in 1962. This increase apparently resulted from rising prices and increased consumption. These expenditures accounted for 19.2 percent of consumer income in 1962 and 18.9 percent in 1963, continuing the downward trend in the proportion of income spent for food. Expenditures for clothing

and shoes also increased 1 percent from 1962 to 1963 and accounted for 8 percent of consumer income in both years. Consumers spent an average of \$43 per person for tobacco in 1963 compared with \$41 in 1962.

Highlights of Special Articles

The Bill for Marketing Farm Products, p. 12.--Goods of domestic farm origin cost U.S. civilian consumers \$103.5 billion in 1963. Returns to farmers from these products amounted to about \$24 billion, marketing agencies received \$73.5 billion and excise taxes accounted for approximately \$6 billion.

The bill for marketing the food products was \$45 billion, 5 percent more than in the previous year. This rise resulted from an increase of 3 percent in the volume of products handled and a rise in unit marketing charges. Although volume increased, the aggregate return to farmers declined \$0.1 billion to \$21.4 billion, because prices received by farmers generally were lower in 1963 than in 1962. Civilians spent \$66.4 billion for these products in 1963, over \$2 billion more than in 1962.

The bill for marketing the nonfood farm products amounted to \$28.5 billion in 1963, up 14 percent from 1958 (the only other year for which comparable data are available). This compares with a 22 percent rise in the food marketing bill during the same period. Consumers spent \$37.1 billion for the nonfood products in 1963, \$4.6 billion more than in 1958. Most of the increase in consumer expenditures resulted from rises in the marketing bill and in excise taxes, as returns to farmers increased only \$0.1 billion to \$2.4 billion. The products covered by the nonfood marketing bill are apparel and other finished textile products, shoes and other leather goods, tobacco, and alcoholic beverages.

Employment in Marketing Consumer Products of Farm Origin, p. 20.--An estimated 8.4 million persons in 1963

were engaged in marketing products of domestic farm origin bought by U.S. consumers. This number includes persons who assemble, process, and distribute farm products. It includes salaried and wage employees, active proprietors, and unpaid family workers. The number of these workers increased 6 percent from 1958 to 1963. In 1963, 4.8 million of these workers were engaged in marketing food products, 4 percent more than in 1958. Much of this increase was in restaurants and other eating places. Nonfood marketing workers totaled 3.6 million in 1963, 9 percent more than in 1958. These workers were engaged in assembling cotton, tobacco, and other domestic farm-produced raw materials, converting them into finished products, and wholesaling and retailing these products, which include apparel and other finished textiles, leather goods, tobacco products, and alcoholic beverages.

Employment in the Final Manufacture of Supplies and Equipment Used by Farmers in 1950 and 1960, p. 24.--Farm employment has declined while agricultural output has increased. To what extent has the reduction in employment on farms been offset by growth in employment in the industries that manufacture farm equipment and supplies? A study by the Economic Research Service indicates that in these industries increased output also has been accompanied by decreasing employment. It is estimated that 285,000 persons were employed in 1960 in the final manufacture of supplies and equipment purchased by farmers for use in agricultural production compared with 414,000 in 1950.

Recent Research on the Marketing of Sweetpotato Flakes, p. 28.--Instant sweetpotato flakes, a relatively new product, are expected to increase the market for sweetpotatoes. The product has been well received by restaurant operators and other segments of the institutional market. However, to build a large market, the product must be introduced successfully in retail stores. To gain information that will be useful in this regard, the Economic Research Service recently conducted exploratory research on types of package,

pricing, and promotion for the product in the retail market. The study showed that consumers have a marked preference for sweetpotato flakes in glass jars rather than in boxes or in tin cans. Sales in jars were largest even when prices of canned sweetpotato flakes were reduced 2 cents. Buyers liked to see the new product before buying. Also, many consumers preferred the jar because part of its contents could be used and the remainder stored until needed. The convenience of instant sweetpotato flakes appears to be their strongest selling point. The product is versatile and can be used in several forms--this also stimulates purchases. Recipe books and demonstrations have helped sales. The new product appears to attract persons who were not frequent users of fresh or canned sweetpotatoes.

Trends in the School Market for Food, p. 33.--The nation's schools provide an important and rapidly expanding market for food. During the school year 1962-63, foods with a wholesale value of \$929 million moved through lunchrooms in about 66,000 public elementary and secondary schools.

Additional foods valued at \$77 million were used in approximately 6,500 private schools offering food service. Five years earlier, public schools provided an outlet for foods valued at \$587 million.

Expansion of the school food market resulted primarily from larger school enrollment and increased availability of school and lunch services. Most of the increase occurred within the framework of the National School Lunch Program. During 1962-63, approximately 64 percent of the Nation's 112,000 public and private schools--accounting for more than 75 percent of U.S. student enrollment--participated in the Federal program. Schools in the National School Lunch Program provide balanced plate lunches and report substantially higher food consumption on a per capita basis than schools operating lunch service apart from the Federal program.

Further expansion of the market depends on increasing the availability of lunches in schools now without food service and increasing pupil participation in schools where lunches are available.

FARM-RETAIL SPREADS FOR FARM-FOOD PRODUCTS

Little Change in Marketing Charges

The farm-retail spread of the market basket of farm-originated food products averaged \$684 (annual rate) in the second quarter this year, scarcely changed from the preceding quarter and from a year earlier (table 16, p. 39). ^{1/} Charges for most major product groups were small

(table 2). The poultry and eggs group declined 6 percent from the first quarter this year because of a sharp decrease in the marketing spread for eggs.

In the first 6 months of 1964, the farm-retail spread averaged about the same as in the same months of 1963 (table 1).

^{1/} The "market basket" contains the average quantities of domestic farm-originated food products purchased per family in 1952 for consumption at home by urban wage-earner and clerical-worker families. Additional information concerning contents of the market basket and methods of estimating market-basket data is in Farm-Retail Spreads for Food Products, USDA Misc. Pub. 741, Nov. 1957. Since the market basket does not contain imported foods, fishery products, or the cost of meals in eating places, its retail cost is less than the cost of all foods bought per family. The farm value is the return to farmers for the fixed quantity of farm products equivalent to the foods in the market basket. The farm-retail spread is the difference between the retail cost and farm value. It is an estimate of the charges made by marketing firms for assembling, processing, transporting, and distributing the products in the market basket.

Table 1.--The farm food market basket: Retail cost, farm value, farm-retail spread, and farmer's share of retail cost, 1953-64 1/

Year and Month	Retail cost <u>2/</u>	Farm value <u>3/</u>	Farm-retail spread	Farmer's share
	Dollars	Dollars	Dollars	Percent
1953	1,003	445	558	44
1954	986	421	565	43
1955	969	395	574	41
1956	972	390	582	40
1957	1,007	401	606	40
1958	1,064	430	634	40
1959	1,040	398	642	38
1957-59 average	1,037	410	627	40
1960	1,053	407	646	39
1961	1,060	406	654	38
1962	1,068	409	659	38
1963 <u>4/</u>	1,078	394	684	37
<u>1963</u>				
January	1,078	408	670	38
February	1,084	398	686	37
March	1,079	392	687	36
April	1,071	390	681	36
May	1,069	385	684	36
June	1,075	390	685	36
July	1,088	403	685	37
August	1,090	396	694	36
September	1,082	390	692	36
October	1,075	392	683	36
November	1,074	395	679	37
December	1,076	385	691	36
<u>1964</u>				
January	1,079	398	681	37
February	1,079	393	686	36
March	1,076	395	681	37
April	1,076	389	687	36
May	1,071	391	680	36
June	1,081	398	683	37

1/ The farmer's share and index numbers of the retail cost, farm value, and farm-retail spread for the years 1913-62 (1957-59=100) are published in the February 1962 Marketing and Transportation Situation (MTS-144) p. 50.

2/ Retail cost of average quantities purchased per family in 1952 by urban wage-earner and clerical worker families, calculated from retail prices collected by the Bur. Labor Statistics.

3/ Payment of farmers for equivalent quantities of farm produce minus imputed value of byproducts obtained in processing.

4/ Preliminary estimates.

: Current data are given in the Statistical Summary, :
: a monthly publication of the Statistical Reporting Service:

Table 2.--The market basket of farm foods: Retail cost, farm value, farm-retail spread, April-June 1964 and April-June 1963

Item	Apr.-June	Apr.-June	Change: Apr.-June 1964 from Apr.-June 1963	
	1964	1963	Actual	Percentage
	<u>Dollars</u>	<u>Dollars</u>	<u>Dollars</u>	<u>Percent</u>
Retail cost				
Market basket	1,076.05	1,071.39	4.66	1/
Meat products	266.28	271.18	-4.90	-2
Dairy products	198.86	197.72	1.14	1
Poultry and eggs	80.37	82.42	-2.05	-2
Bakery and cereal products	172.72	172.87	-.15	1/
All fruits and vegetables	268.32	258.64	9.68	4
Fats and oils	41.86	42.05	-.19	1/
Miscellaneous products	47.64	46.51	1.13	2
Farm value				
Market basket	392.35	388.43	3.92	1
Meat products	120.96	129.53	-8.57	-7
Dairy products	85.42	84.73	.69	1
Poultry and eggs	46.89	48.19	-1.30	-3
Bakery and cereal products	29.01	31.52	-2.51	-8
All fruits and vegetables	90.92	75.22	15.70	21
Fats and oils	11.05	11.50	-.45	-4
Miscellaneous products	8.10	7.74	.36	5
Farm-retail spread				
Market basket	683.70	682.96	.74	1/
Meat products	145.32	141.65	3.67	3
Dairy products	113.44	112.99	.45	1/
Poultry and eggs	33.48	34.23	-.75	-2
Bakery and cereal products	143.71	141.35	2.36	2
All fruits and vegetables	177.40	183.42	-6.02	-3
Fats and oils	30.81	30.55	.26	1
Miscellaneous products	39.54	38.77	.77	2
Farmer's share of retail cost				
	<u>Percent</u>	<u>Percent</u>	<u>Percentage Point</u>	
Market basket	36	36	0	
Meat products	45	48	-3	
Dairy products	43	43	0	
Poultry and eggs	58	58	0	
Bakery and cereal products	17	18	-1	
All fruits and vegetables	34	29	5	
Fats and oils	26	27	-1	
Miscellaneous products	17	17	0	

1/ Less than 0.5 percent.

Small Changes in Farm Value

The total farm value of the products in the farm-food market basket averaged \$392 in the second quarter of 1964, 1 percent lower than in January-March but nearly 1 percent higher than a year earlier (table 2).

Much of the decrease from the first to second quarter this year resulted from lower prices received by farmers for beef cattle, milk, eggs, chickens, wheat, and several fresh vegetables. These decreases were largely offset by higher prices for hogs, apples, grapefruit, oranges for processing, potatoes, and several fresh vegetables (table 15, p. 38).

Prices were higher in the second quarter than a year earlier for most fresh fruits and vegetables, potatoes and sweet potatoes, oranges for processing, and a few other products. These increases were partly offset, however, by decreases for beef cattle, hogs, chickens, wheat, and several other products.

Retail Cost Remains Stable

The retail cost of the market basket was at an average annual rate of \$1,076 in the second quarter, about the same as in the preceding 3 months and in the like quarter of 1963. Higher prices for fruits and vegetables were offset by lower prices for other product groups (table 15, p. 38).

Farmer's Share Averages 36 cents

Farmers received an average of 36 cents of the dollar consumers spent in retail food stores for farm foods in the second quarter this year, 1 cent less

than in the first quarter but the same as in the second quarter of 1963. 2/

rop in Farm Value of Beef Continued in Second Quarter; Marketing Charges Rose Slightly

The retail price of Choice beef averaged 76.3 cents in the second quarter this year, down 1.7 cents from the previous 3 months and 2.8 cents from April-June 1963 (table 3). The decline in the retail price was smaller than that in the farm value, which averaged 39.5 cents in the second quarter, down 1.8 cents from the preceding quarter and 3.8 cents from a year earlier. Because of the smaller decrease in the retail price, the farm-retail spread increased to 36.8 cents, 0.1 cent larger than in the previous quarter and 1.0 cent larger than in the second quarter last year. The wholesale-retail segment and the farm-wholesale segment, of the farm-retail spread each increased 3 percent from the second quarter 1963 to the same period this year (table 3). Slaughter of beef cattle in the first half was 11 percent larger than in the same period of 1963.

Farm Value of Bread Decreased More Than Retail Price

The farm value of a 1-pound loaf of white bread averaged 2.9 cents in the second quarter, 0.2 cent lower than the preceding quarter and 0.3 cent lower than in the second quarter last year. All of this decline resulted from decreases in prices received by farmers for wheat. Corresponding decreases in the retail price were 0.1 cent and 0.2 cent. The retail price averaged 21.4 cents last quarter.

2/ The farm value of the market basket and the farmer's share do not take into account Government payments to producers of several products.

Table 3.--Beef, pork, and lamb: Retail price, wholesale value, farm value, farm-retail spread, and farmer's share of retail price by quarters, 1963-64

Date	Retail price	Wholesale	Gross	Byproduct	Net	Farm-retail spread			Farmer's share
	per pound 1/	value 2/	farm value 3/	allowance 4/	farm value 5/	Total	Wholesale-retail	Farm-wholesale	
	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Percent
Beef, (Choice grade) 6/									
1963									
Jan.-Mar.	84.5	58.2	51.7	4.1	47.6	36.9	26.3	10.6	56
Apr.-June	79.1	54.6	47.2	3.9	43.3	35.8	24.5	11.3	55
July-Sept.	80.4	57.4	50.8	4.1	46.7	33.7	23.0	10.7	58
Oct.-Dec.	80.0	54.2	47.7	4.0	43.7	36.3	25.8	10.5	55
1964									
Jan.-Mar.	78.0	52.6	44.9	3.6	41.3	36.7	25.4	11.3	53
Apr.-June	76.3	51.1	43.4	3.9	39.5	36.8	25.2	11.6	52
July-Sept.									
Oct.-Dec.									
Pork, (retail cuts) 6/									
1963									
Jan.-Mar.	57.7	39.2	31.8	4.2	27.6	30.1	18.5	11.6	48
Apr.-June	55.5	39.0	32.2	3.9	28.3	27.2	16.5	10.7	51
July-Sept.	59.6	43.4	36.3	4.3	32.0	27.6	16.2	11.4	54
Oct.-Dec.	57.0	39.6	31.3	4.1	27.2	29.8	17.4	12.4	48
1964									
Jan.-Mar.	56.1	38.9	31.1	4.0	27.1	29.0	17.2	11.8	48
Apr.-June	55.5	38.5	31.7	4.1	27.6	27.9	17.0	10.9	50
July-Sept.									
Oct.-Dec.									
Lamb, (Choice grade) 6/									
1963									
Jan.-Mar.	72.2	44.7	43.0	7.0	36.0	36.2	27.5	8.7	50
Apr.-June	73.0	50.3	45.1	6.1	39.0	34.0	22.7	11.3	53
July-Sept.	73.1	48.7	43.2	5.7	37.5	35.6	24.4	11.2	51
Oct.-Dec.	71.9	45.8	41.3	7.3	34.0	37.9	26.1	11.8	47
1964									
Jan.-Mar.	73.9	46.5	45.2	7.4	37.8	36.1	27.4	8.7	51
Apr.-June	73.6	52.6	48.3	7.7	40.6	33.0	21.0	12.0	55
July-Sept.									
Oct.-Dec.									

1/ Estimated weighted average price of retail cuts.

2/ Wholesale value of quantity of carcass equivalent to 1 lb. of retail cuts: Beef, 1.35 lb.; pork, 1.00 lb.; lamb, 1.11 lb.

3/ Payment to farmer for quantity of live animal equivalent to 1 lb. of retail cuts: Beef, 2.25 lb.; pork, 2.13 lb.; lamb, quantity varies by months from 2.28 lb. in June to 2.42 lb. in March.

4/ Portion of gross farm value attributed to edible and inedible byproduct.

5/ Gross farm value minus byproduct allowance.

6/ Gross and net farm values, farm-retail spread, and farm-wholesale spread have been revised. Byproduct adjustments for beef have been revised for most quarters.

Data for earlier years were published in the Marketing and Transportation Situation, May 1962, (MTS-145).

CONSUMER INCOME AND EXPENDITURES

Personal disposable income rose to a seasonally adjusted annual rate of \$2,250 per person in the second quarter this year. It was about 3 percent higher than in the preceding quarter and 7 percent higher than in April-June 1963 (table 4). These increases were twice as large as the corresponding increases last year. Disposable income per person in dollars of constant purchasing power also was higher, averaging 2 percent more in the quarter just ended than in the first quarter and 5 percent more than a year earlier. The recent reduction in Federal income tax rates was responsible for about half of the greater increase this year. Disposable personal income (personal income less personal taxes) made up 88.4 percent of personal income before taxes in the second quarter this year, compared with 87.2 percent in the preceding quarter and 86.7 percent in the second quarter last year.

Consumers divided the increased income resulting from the tax cut between expenditures and savings. Consumers' expenditures for goods and services (seasonally adjusted annual rate) averaged \$2,065 per person in the second quarter, 1 percent more than in January-March and 5 percent more than a year earlier. Personal savings rose sharply, amounting to \$185 per capita in the second quarter, 20 percent more than in the previous quarter and 29 percent more than in the second quarter last year.

Consumers increased their expenditures from the first to the second quarter this year by 1 percent for each of the 3 categories: Durable goods, nondurable goods, and services. The largest percentage rise in expenditures from the second quarter last year was for durable

goods. In the quarter just ended, consumers spend 41 percent of their disposable income for nondurable goods, 38 percent for services, and 13 percent for durable goods; the proportions spend for nondurables and services were slightly smaller than a year earlier.

Expenditures for Food

Expenditures for food in the first quarter this year (the latest quarter for which data was available) rose to a seasonally adjusted annual rate of \$410 compared with \$402 in the previous quarter and \$401 in the first quarter of 1963. Prices consumers paid for food did not change significantly during this period. Expenditures for food accounted for 18.7 percent of consumer income in the first quarter this year, compared with 18.6 percent in the previous quarter and 19.1 percent in the first quarter last year.

Consumers spent an average of \$401 for food in 1963, compared with \$396 in 1962. The rise resulted from price increases and increased per capita consumption. Food expenditures made up 18.9 percent of consumer disposable income in 1963, 19.2 percent in 1962, and 22.4 percent in 1953.

Expenditures for clothing and shoes averaged \$162 per person in 1963, up 1 percent from 1962. These expenditures accounted for about 8 percent of consumer disposable income in both 1962 and 1963 and for 9 percent in 1953. Consumers spent \$43 per person for tobacco last year and \$41 in 1962. Expenditures for tobacco have taken approximately 2 percent of consumers' disposable income in each year since World War II.

Table 4.--Per capita income and expenditures for food and other goods and services,
United States, average 1947-49, annual 1950-63, quarters 1963-64 1/

Year	: Disposable : personal : income	Personal consumption expenditures			
		Food		: Other goods and services	
		Actual	:Percentage of:	Actual	:Percentage of
			: disposable : : income :		: disposable : income
	Dollars	Dollars	Percent	Dollars	Percent
1947-49 average	1,248	319	25.6	874	70.0
1950	1,369	312	22.8	974	71.1
1951	1,475	346	23.5	1,014	68.7
1952	1,521	356	23.4	1,044	68.6
1953	1,582	355	22.4	1,103	69.7
1954	1,582	355	22.4	1,111	70.2
1955	1,660	358	21.6	1,196	72.0
1956	1,741	370	21.3	1,234	70.9
1957	1,803	381	21.1	1,284	71.2
1958	1,825	387	21.2	1,297	71.1
1959	1,904	385	20.2	1,385	72.7
1960	1,937	386	19.9	1,430	73.8
1961	1,985	386	19.5	1,450	73.0
1962	2,060	396	19.2	1,516	73.6
1963	2,125	401	18.9	1,579	74.3
Annual rates, seasonally adjusted <u>2/</u>					
<u>1963</u>					
Jan.-Mar.	2,097	401	19.1	1,558	74.3
Apr.-June	2,111	401	19.0	1,567	74.2
July-Sept.	2,131	402	18.9	1,587	74.5
Oct.-Dec.	2,159	402	18.6	1,600	74.1
<u>1964</u>					
Jan.-Mar.	2,195	410	18.7	1,631	74.3
Apr.-June <u>3/</u>	2,250	---	----	---	----
July-Sept.					
Oct.-Dec.					

1/ Per capita income and expenditures for food, 1929-49, published in the April 1961 issue of the Marketing and Transportation Situation (MTS-141)

2/ Quarterly estimates of expenditures for food not including alcoholic beverages have been made by the Economic Research Service from the Department of Commerce estimates of expenditures for food and alcoholic beverages.

3/ Preliminary.

Compiled from estimates published by the National Income Division; U. S. Department of Commerce. Data for Alaska and Hawaii included beginning 1960.

THE BILL FOR MARKETING FARM PRODUCTS 1/

Consumers in the United States spent \$103.5 billion in 1963 for consumer goods of domestic farm origin including food, textiles, leather articles, tobacco, and alcoholic beverages. Returns to farmers from these products totaled about \$24 billion; the marketing bill was more than \$73.5 billion, and excise taxes on these products amounted to \$6 billion. Not covered by these estimates are several commodities for which farm products are minor ingredients, such as paint, soap, and auto tires.

The Farm-Food Marketing Bill

The bill for marketing domestic farm-originated foods to U.S. civilian consumers totaled \$45.0 billion in 1963, an increase of over 5 percent since 1962 and somewhat more than the average annual rise during the past 10 years (table 5). 2/ Volume of food handled increased by less than 3 percent from 1962 to 1963; unit marketing charges increased by about the same proportion.

The marketing bill has increased every year since 1950, when it was the same as in the preceding year. From 1953 to 1963 it rose about 54 percent. Growth in volume accounted for almost three-fifths of the increase, rising unit marketing charges accounted for the remainder.

Total payment to farmers for the farm equivalent of these foods fell slightly from 1962 to 1963, the first decline since 1959. Farm prices were down in 1963 for most

commodity groups, including meat animals. Prices were up for fruits, which were in short supply; but volume increased for other commodity groups.

For the period 1953-63, the net change in the farm value was upward by about 12 percent. Although farm prices were lower in 1963 than in 1953, increased volume more than compensated.

Civilian consumers spent \$66.4 billion in 1963 to purchase farm-originated foods, over \$2 billion more than in the previous year. Prices of foods in retail food stores increased by about 1 percent; prices of food in away-from-home eating places rose twice as much. The marketing bill accounted for about two-thirds of civilian expenditures for farm foods in 1962 and 1963 compared with three-fifths in 1953.

Components of the Farm-Food Marketing Bill

Labor.--Direct labor costs for marketing domestic farm-originated foods to civilian consumers were estimated at \$20.4 billion in 1963, up 3 percent from 1962, and 45 percent from 1953 (table 6).

They constituted 45 percent of the marketing bill in 1963, the same as the average for the second half of the 1953-63 decade. They averaged slightly higher during the first half, and were 48 percent in 1953.

1/ Prepared by Jeannette Findlay, agricultural economist, Marketing Economics Division, Economic Research Service, USDA.

2/ The marketing bill is the difference between the total expenditures by civilian consumers for domestic farm food products and the farm value or payment that farmers received for the equivalent farm products. It is an estimate of the total charges for transporting, processing, wholesaling, and retailing farm foods. Foods sold in the form of meals in restaurants and other eating places and those sold at less than retail prices are valued at the point of sale. Estimates do not include the value of food products not produced on farms in the United States, foods consumed on farms where produced, or foods not sold to civilian consumers in this country. Estimates of the marketing bill and related statistics exclude Alaska and Hawaii because of inadequate data.

Table 5.--The total marketing bill, farm value, and consumer expenditures for domestic farm food products bought by civilians, United States, 1929-63

Year	Total marketing bill <u>1/</u>	Farm value	Civilian expendi- tures for farm foods	Year	Total marketing bill <u>1/</u>	Farm value	Civilian expendi- tures for farm foods
	Billion dollars	Billion dollars	Billion dollars		Billion dollars	Billion dollars	Billion dollars
1929	9.7	7.2	16.9	1947-49 av.	22.5	18.3	40.8
1930	9.9	6.4	16.3	1950 ...	23.9	17.6	41.5
1931	8.6	4.7	13.3	1951 ...	26.4	20.0	46.4
1932	7.5	3.4	10.9	1952 ...	28.3	19.8	48.1
1933	7.3	3.6	10.9	1953 ...	29.2	19.1	48.3
1934	7.5	4.3	12.1	1954 ...	30.0	18.4	48.4
1935	7.3	5.0	12.6	1955 ...	32.0	18.3	50.3
1936	8.2	5.8	14.0	1956 ...	33.7	18.7	52.4
1937	8.1	6.0	14.1	1957 ...	35.2	19.5	54.7
1938	8.4	5.2	13.6	1958 ...	36.8	20.8	57.6
1939	8.6	5.2	13.8	1959 ...	39.2	20.0	59.2
1940	9.1	5.6	14.7	1957-59 av.	37.1	20.1	57.2
1941	9.9	7.1	17.0	1960 ...	40.5	20.7	61.2
1942	11.7	9.3	21.0	1961 ...	41.8	20.9	62.7
1943	12.6	11.4	23.8	1962 ...	42.7	21.5	64.2
1944	13.3	11.6	24.4	1963 <u>2/</u> ..	45.0	21.4	66.4
1945	14.9	12.6	26.8				
1946	18.3	15.7	33.5				
1947	20.7	18.7	39.4				
1948	22.9	19.3	42.2				
1949	23.9	16.9	40.8				

1/ Difference between civilian expenditures and farm value except that Federal processor taxes have been deducted for 1933-35 and allowances for Federal Government payments to processors have been added for 1943-46. Data for 1962 have been revised.

2/ Preliminary.

Estimates in this table do not cover Alaska and Hawaii because of inadequate data.

Growth in volume handled accounted for about three-fourths of the increase in total cost during the decade. The rise in labor cost per unit of product accounted for the remainder. Workers' hourly earnings in 1963 were 3 percent more than in 1962 and 48 percent more than a decade ago (table 7). But unit labor costs rose less than hourly earnings, because hours of labor needed per unit of product marketed continued to decrease.

Rail and truck transportation.--The bill for hauling farm-originated food products by truck and rail increased to approximately \$5 billion in 1963, from \$4.8 billion in the previous year. This bill includes charges for refrigeration and heating for the cars and trucks carrying perishable products. The estimated 1963 rail and truck transportation bill made up 11 percent of the total marketing bill.

Table 6.--Labor, transportation, corporate profits, and other costs for marketing farm food products, United States, 1939-63 1/

Year	Labor <u>2/</u>	Rail and truck transportation <u>3/</u>	Corporate profits <u>4/</u>		Other <u>5/</u>	Total marketing bill
			Before income taxes	After income taxes		
	Billion dollars	Billion dollars	Billion dollars	Billion dollars	Billion dollars	Billion dollars
1939	4.2	1.0	0.3	0.3	3.1	8.6
1940	4.5	1.1	.4	.3	3.1	9.1
1941	4.9	1.2	.6	.4	3.2	9.9
1942	5.3	1.0	.8	.4	4.6	11.7
1943	5.4	1.0	1.1	.5	5.1	12.6
1944	6.0	1.1	1.1	.5	5.1	13.3
1945	6.6	1.3	1.1	.5	5.9	14.9
1946	8.3	1.6	1.7	1.1	6.7	18.3
1947	9.7	2.0	1.5	1.0	7.5	20.7
1948	10.8	2.2	1.3	.8	8.6	22.9
1949	11.3	2.3	1.3	.7	9.0	23.9
1950	11.8	2.6	1.6	.9	7.9	23.9
1951	12.5	2.6	1.3	.6	10.0	26.4
1952	13.3	3.0	1.4	.6	10.6	28.3
1953	14.1	3.2	1.5	.7	10.4	29.2
1954	14.8	3.3	1.5	.7	10.4	30.0
1955	15.1	3.2	1.8	.9	11.9	32.0
1956	15.8	3.5	1.9	.9	12.5	33.7
1957	16.3	3.6	1.9	.9	13.4	35.2
1958	16.7	3.9	1.9	.9	14.3	36.8
1959	17.4	4.1	2.1	1.0	15.6	39.2
1957-59 average .	16.8	3.9	2.0	.9	14.4	37.1
1960	18.5	4.1	2.1	.9	15.8	40.5
1961	19.0	4.5	2.2	1.0	16.1	41.8
1962	19.8	4.8	2.2	1.0	15.9	42.7
1963 <u>6/</u>	20.4	5.0	2.4	1.2	17.2	45.0

1/ For domestic farm foods bought by civilian consumers in this country.

2/ Does not include the cost of labor employed in intercity for-hire transportation.

3/ Includes charges for the protective services, heating and refrigeration; does not include local hauling; charges for intercity transportation by water and air are a part of the "other" or residual component of the marketing bill.

4/ Does not include profits of unincorporated firms or firms engaged in intercity transportation.

5/ Residual component; includes other costs such as fuel, electric power, containers, packaging materials, air and water transportation, interest on borrowed capital, taxes other than those on income, and noncorporate profits.

6/ Preliminary.

Table 7.--Average hourly earnings and labor costs and profits per unit of product for marketing farm food products, United States, 1939-63 1/ (Index numbers 1957-59=100)

Year	Hourly earnings <u>2/</u>	Unit labor cost <u>2/</u>	Profit per unit of product <u>3/</u>	
			Before taxes	After taxes
1939	28	41	29	48
1940	30	42	30	46
1941	32	45	46	60
1942	35	47	63	65
1943	38	50	82	76
1944	41	53	82	72
1945	44	56	77	72
1946	51	63	111	145
1947	58	74	97	129
1948	63	84	83	104
1949	67	86	81	101
1950	69	86	100	116
1951	74	92	84	81
1952	77	94	82	76
1953	82	96	88	84
1954	87	97	83	80
1955	89	96	98	100
1956	92	96	99	100
1957	97	98	98	96
1958	100	101	98	99
1959	103	101	104	105
1960	108	104	99	95
1961	112	105	102	101
1962	117	107	---	---
1963 <u>4/</u>	121	108	---	---

1/ For domestic farm-originated foods bought by civilian consumers in this country.

2/ Hourly earnings estimated by dividing total labor cost by total man-hours for all workers. These data include proprietors and family workers not receiving stated remuneration. They also include supplements to wages and salaries. Unit labor cost is the quotient of the indexes of total labor cost (table 6) and of volume of farm food products marketed to civilian consumers. The index of farm food products marketed was constructed by weighting the quantities sold by 1947-49 average retail prices.

These data have been revised for most years. Data for 1929-38 are given below (1957-59=100):

Year	Average hourly earnings	Unit labor cost	Year	Average hourly earnings	Unit labor cost
1929	---	45	1934	26	36
1930	---	44	1935	27	40
1931	---	40	1936	26	39
1932	25	35	1937	28	44
1933	24	33	1938	28	42

3/ Profit per unit of product is the quotient of the index of total corporate profits from marketing farm foods produced and consumed in the United States and the index of the volume of farm food products marketed.

4/ Preliminary.

Revisions in the source data for 1961 and 1962 caused the transportation bill for those years to exceed previous estimates by \$0.2 billion and \$0.5 billion, respectively. Consequently, estimates for 1961-63 are not strictly comparable with those for earlier years.

Corporate profits.--- Profits (before taxes) earned by corporations from marketing the products covered by the farm-food marketing bill amounted to \$2.4 billion in 1963, \$0.2 billion (9 percent) more than in 1962. This was the largest increase since 1959. Before-tax profits accounted for 5 percent of the total marketing bill in 1963, the same percentage as in 1953. Profit rates per dollar of sales increased from 1962 to 1963, at least for the leading food marketing firms. 3/

Other costs.--Other costs and noncorporate profit, the residual group in the marketing bill, amounted to 17.2 billion last year, 8 percent more than in 1962. This component includes advertising costs, depreciation, taxes other than Federal income taxes, costs of intercity transportation other than rail and truck, rents, interest, and costs of containers and packaging materials, fuel, electric power, and many other goods and services.

Those items for which it has been possible to estimate totaled about \$6.0 billion in 1962, and made up 13 percent of the farm food marketing bill (table 8). 4/

Effect of Additional Services on Farm Share

It is often said that the farmer's share of the consumer's food dollar has declined since World War II because of increased expenditure for convenience foods and other foods that embody more marketing services. Comparison of two ways of calculating farmer's shares, however, indicates that nearly all of the decline has resulted from rising prices of marketing inputs and from falling farm prices.

The Economic Research Service regularly calculates the farmer's share of the consumer's farm-food dollar by dividing the farm value of the "market basket of farm foods" by the retail cost of these foods (table 1, p. 6). Another farm share may be calculated from the marketing bill data. To do this, the farm value is divided by the civilian expenditures for farm foods (table 5).

Because of the nature of the market basket statistics, the farmer's share calculated from these data is not affected by increased purchases of convenience foods. The market basket statistics are for a fixed quantity of farm-originated foods of unchanging quality and type. Thus, substitutions of products embodying more marketing services for those requiring fewer services do not change the quantity of services performed in marketing the products in the market basket. Increased marketing services not directly connected with products, but affecting the general level of retail prices, would tend to reduce the farmer's share. One example would be a supermarket parking lot. The influence of these developments is believed to have been minor.

The marketing bill statistics, however, are affected by changes in the type, and quantity, of products purchased. Expanding purchases of foods embodying more marketing services have affected the farm share of civilian expenditures for farm foods. However, the farm share calculated from these data has declined only a little more than the market basket share (figure 1), so increased marketing services have not been a significant cause of the decline in the farm share.

The farm share of civilian expenditures for farm food has for many years been smaller than the farmer's share of the retail cost of the market basket foods, mainly because civilian expenditures for farm foods include purchases at restaurants and other eating places, whose

3/ The Marketing and Transportation Situation, May 1964, p. 11.

4/ Estimates in table 8 were prepared by William T. Wesson, agricultural economist, Marketing Economics Division, ERS. They were based on data in Statistics of Income, published by the Internal Revenue Service, and on census data.

Table 8.--Costs of selected items and noncorporate profits in the food marketing bill, by type of food marketing firm, 1947-49 average and 1962 1/

Item	Processors		Wholesalers <u>2/</u>		Retailers <u>3/</u>		Total all groups	
	Average	1962	Average	1962	Average	1962	Average	1962
	1947-49		1947-49		1947-49		1947-49	
	Mil.	Mil.	Mil.	Mil.	Mil.	Mil.	Mil.	Mil.
	dol.	dol.	dol.	dol.	dol.	dol.	dol.	dol.
Advertising...	310	892	42	84	107	370	459	1,346
Depreciation...	225	718	43	176	126	485	394	1,379
Interest.....	42	118	14	49	14	64	70	231
Business taxes <u>4/</u> ...	240	571	52	145	134	452	426	1,168
Rent.....	42	184	18	136	163	577	223	897
Repairs, con-tributions, bad debts...	220	439	25	93	50	212	295	744
Profits (pre-tax) <u>5/</u>	50	78	26	36	85	115	161	229
Total	1,129	3,000	220	719	679	2,275	2,028	5,994

1/ Estimates are based on Internal Revenue Service and census data and are subject to revision.

2/ Merchant wholesalers of groceries and related products.

3/ Includes retail food stores; does not include restaurants and other eating places.

4/ Includes property, social security, unemployment insurance, State income, and franchise taxes, license fees, etc., but does not include Federal income tax. Social security and unemployment insurance taxes also are included in the labor cost component as labor supplements.

5/ Profits are for noncorporate firms only; however, the estimates are based on the corporate concept of profits.

food prices are higher than those of retail food stores (figure 1). The retail cost of the market basket of farm foods is in terms of retail food store prices. Both the farm value corresponding to the civilian expenditures and the farm value of the market basket foods are in terms of prices received by farmers. 5/

Marketing Bill for Nonfood Farm Products

U.S. consumers spent \$37.1 billion in 1963 for nonfood products of domestic farm origin (table 9). This total includes expenditures for apparel and household textiles, shoes and leather products, alcoholic beverages, and tobacco. 6/ It does not

5/ Civilian expenditures also include purchases at less-than-retail prices. In 1929 and earlier years the value of purchases at less-than-retail prices exceeded that of purchases of food at prices charged by restaurants and other eating places, causing the farm share of civilian expenditures to be larger than the market basket farmer's share.

6/ Floor coverings are not included; most carpet wool is imported.

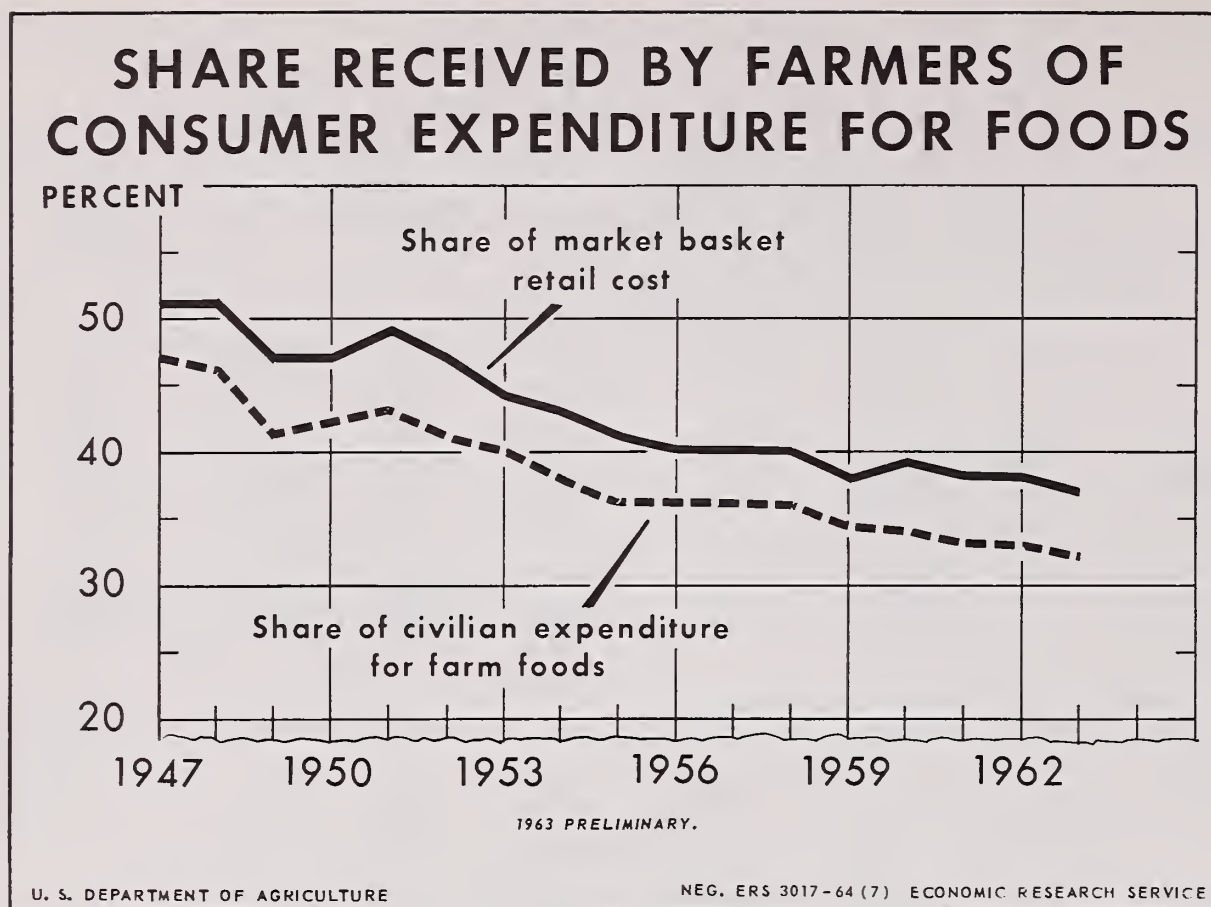


Figure 1

include expenditures for textiles or other products manufactured from nonfarm or imported raw materials or imported finished products.

The bill for marketing these products amounted to \$28.5 billion in 1963, up 14 percent from 1958. ^{7/} Increases in marketing bills for individual product

^{7/} Estimates are available only for 1958 and 1963. Estimates for 1954 were published in Agricultural Economics Research, USDA, Vol. VII, No. 4, Oct. 1955, p. 102; but these estimates were not strictly comparable with those for the later years. Estimates of the value of consumer purchases of the nonfood products were based on estimates of personal consumption expenditure for each product group, made by the National Income Division of the Department of Commerce and published in the Survey of Current Business, U.S. Dept. of Commerce, July issues, table II-4, for all nonfood groups except alcoholic beverages. The consumption expenditure of alcoholic beverages includes both personal expenditures and expenditures by business firms. These estimates include products manufactured from nonfarm and imported raw materials and imported finished products. Hence, they must be reduced to represent domestic farm products only. The farm values of most products were derived from the quantities of raw farm products used in industries manufacturing the finished products. These quantities must be reduced to exclude (1) imported raw materials, (2) uses in nonconsumer goods, and (3) materials for exported products. The remaining quantities are valued at average prices received by farmers. For leather products, the farm value was derived by deducting estimated trade margins from consumer expenditures. The marketing bill is the difference between consumer expenditures and the value, at farm prices, of the equivalent farm products, except for tobacco products and alcoholic beverages. For both of these products the difference between consumer expenditures and the farm value includes excise taxes.

Table 9.--The marketing bill, farm value, and consumer expenditures for consumer goods of domestic farm origin, 1958 and 1963

Product group	Consumer expenditures		Farm value <u>1/</u>		Marketing bill <u>2/</u>		Excise tax	
	1958	1963 ^{3/}	1958	1963 ^{3/}	1958	1963 ^{3/}	1958	1963 ^{3/}
	Bil. <u>dol.</u>	Bil. <u>dol.</u>	Bil. <u>dol.</u>	Bil. <u>dol.</u>	Bil. <u>dol.</u>	Bil. <u>dol.</u>	Bil. <u>dol.</u>	Bil. <u>dol.</u>
Food	57.6	66.4	20.8	21.4	36.8	45.0	---	---
Nonfoods:								
Textile products:	14.1	14.8	.9	1.0	13.2	13.8	---	---
Alcoholic beverages	9.9	12.0	.4	.4	6.9	8.7	2.6	2.9
Tobacco products:	5.8	7.2	.8	.8	2.5	3.1	2.5	3.3
Leather products:	2.7	3.1	.2	.2	2.5	2.9	---	---
Total	32.5	37.1	2.3	2.4	25.1	28.5	5.1	6.2
Total foods and nonfoods	90.1	103.5	23.1	23.8	61.9	73.5	5.1	6.2

1/ Returns to farmers for farm products equivalent to products bought by consumers.

2/ Difference between consumer expenditures and farm value, except for alcoholic beverages and tobacco. For these products estimates of Federal, State, and local excise taxes are subtracted from the difference to obtain the marketing bill.

3/ Preliminary.

groups varied from 5 percent for textiles to 26 percent for alcoholic beverages. These increases compared with 22 percent for domestic farm-originated foods. Increases resulted from growth in the volume of products marketed and rises in marketing charges per unit of product.

Marketing charges and excise taxes accounted for most of the increase of \$4.6 billion in consumer expenditures for these products from 1958 to 1963, since the farm value of the products rose only \$0.1 billion. Among the product groups, only the textile products had a larger farm value in 1963 than in 1958. The farm value of this group increased because prices farmers received for wool were lower in 1958 than in any other year from 1942 to 1963. Increased volume prevented a decline in the farm value of

leather products from 1958 to 1963, although the price of hides was so low in 1963 that hides of poor quality were diverted to rendering plants.

Other uses of farm products.--Farm-produced raw materials are used in many products not covered by these estimates. Paints, soaps, and chemicals utilize fats and oils of farm origin in addition to a wide range of petroleum derivatives. Synthetic fibers and materials are made from chemical grades of cotton linters, although greater amounts of wood pulp are used for this purpose. Cotton is used in furniture and car upholstery, and vies with rayon for tire cord. Some 10 percent of industrial alcohol may be made from farm products.

EMPLOYMENT IN MARKETING CONSUMER PRODUCTS OF FARM ORIGIN 1/

Approximately 8.4 million persons (on a full-time equivalent basis) were engaged in marketing domestic farm-originated food and nonfood products bought by U.S. civilian consumers in 1963. This number includes persons working in firms that assemble, process, and distribute farm food products. It includes salaried and wage employees, active proprietors of unincorporated firms, and family workers who do not receive stated money compensation.

Employment in Marketing Food Products

About 4.8 million persons were engaged in marketing domestic farm-originated food products in 1963, about 13 percent more than in 1947. 2/ The total increased in all but 4 years of that period (table 10). However, it increased at a slower rate than total nonagricultural

employment, which rose nearly 29 percent. As a result, these food marketing workers made up a slightly smaller proportion of the total nonagricultural workers--7 percent in 1963 compared with 9 percent in 1947. During the same period the number of workers on farms declined to 6.5 million in 1963 from 10.4 million in 1947. 3/

Why the number of workers increased.-- Three factors have accounted for the increase in the number of food marketing workers. They are (1) growth in the volume of products marketed, (2) an increase in marketing services per unit of product, and (3) a reduction in average hours worked per week per person. The effect of these factors has been partly offset, however, by increases in the output of marketing services per man-hour.

The volume of domestic farm-food products marketed to civilian consumers in this

1/ Prepared by Jeannette Findlay and Forrest E. Scott, agricultural economists, Marketing Economics Division, Economic Research Service, USDA.

2/ These are workers engaged in marketing the food covered by the farm-food marketing bill (p. 12). For a description of the way in which these estimates were derived, see "Labor in Marketing Farm Products," Agricultural Economics Research, USDA, Apr. 1955, pp. 42-49. Most retail and wholesale establishments that sell domestic farm-originated foods also handle other products. Many plants that manufacture foods from domestic farm-produced raw materials also manufacture products from other raw materials. Consequently, the total number of workers in these establishments cannot be included in the total of persons marketing domestic farm-originated foods. In general, the proportion included is determined by the proportion of the industry's total sales or output represented by domestic farm food products. Further adjustments have to be made to exclude a portion of the workers to allow for those engaged in marketing export commodities and products sold to the Armed Forces. The reported number of workers, which includes part-time workers, is adjusted to a full-time equivalent basis.

3/ The statistical series used are not strictly comparable. The series for food marketing workers is on a full-time equivalent basis, that for farm workers includes part-time as well as full-time workers and workers on farms that produce nonfood products. But the percentage reduction probably would not be significantly different in a series showing the number of workers on a full-time equivalent basis engaged in producing food products only. The numbers of farm workers given above are estimates by the U.S. Department of Agriculture. Estimates published by the U.S. Department of Labor show agricultural employment of 4.9 million persons in 1963, down from 8.3 million in 1947. These estimates differ because of differences in definition and sampling procedure.

Table 10.--Number of persons engaged in marketing domestic farm-food products bought by United States civilian consumers, 1947-63

Year	Manufac- turing	Wholesaling and assembling	Retail stores	Away-from- home eating places	Total
	Thousands	Thousands	Thousands	Thousands	Thousands
1947	1,164	381	1,435	1,233	4,213
1948	1,197	400	1,497	1,220	4,314
1949	1,185	420	1,486	1,218	4,309
1950	1,210	398	1,483	1,217	4,308
1951	1,179	398	1,498	1,250	4,325
1952	1,219	417	1,489	1,279	4,404
1953	1,253	441	1,483	1,321	4,498
1954	1,243	463	1,475	1,323	4,504
1955	1,246	441	1,463	1,373	4,523
1956	1,249	450	1,458	1,416	4,573
1957	1,252	475	1,435	1,425	4,587
1958	1,240	477	1,406	1,436	4,559
1959	1,233	470	1,435	1,484	4,622
1960	1,247	491	1,471	1,525	4,734
1961	1,231	499	1,449	1,531	4,710
1962	1,213	514	1,432	1,570	4,729
1963	1,186	518	1,458	1,599	4,761
1964					
1965					
1966					
1967					

country increased by 40-45 percent from 1947 to 1963. ^{4/} Thus, the percentage increase in the volume marketed was more than 3 times that in employment.

The increase in marketing services per unit of product marketed was achieved in several ways. Consumers bought a larger proportion of their food in restaurants and other eating places; they

substituted highly processed foods for less highly processed or unprocessed foods; and they bought food that received more sorting, grading, refrigeration, packaging, and other marketing services than in earlier years. Generally, adding marketing services increased labor time. However, less labor time per unit is probably required in a plant producing a new highly processed food than in a plant

^{4/} This is the percentage change shown by a retail-price weighted index. Two indexes of the volume of domestic farm-originated food products marketed to civilian consumers are available. One measures annual changes in volumes of farm products equivalent to volumes marketed at retail; the other measures changes in volumes of products retailed. In constructing the first index, physical quantity indexes for individual products are weighted by prices received by farmers. The second is constructed by weighting with retail prices. Products with relatively high marketing charges have a heavier weight in the second index than in the first. The retail-price weighted index has increased slightly more than the farm-price weighted index in the postwar years.

turning out an older, less highly processed product for which it is substituted--mainly because the plant producing the new food probably has more labor saving equipment.

Marketing firms have increased advertising and other product promotion, selling, research, and other activities that are not directly connected with processing and product handling. Tax and payroll accounting, inventory control, budgeting, and planning have increased per unit of product marketed. It is likely that man-hours spent on these and similar activities have increased, although improvements in skill, electronic data processing, and other innovations have increased productivity.

The increase in the number of food marketing workers would have been much smaller if the hours worked per person had not decreased. Hours worked per week averaged about 42 in food manufacturing in 1947; by 1963 the average was down to about 39. In the retail food trade, employees averaged about 41 hours per week in 1947 and 35 in 1963.

A considerable gain in output per man-hour enabled the marketing system to expand the volume of products marketed by more than two-fifths, to add marketing services per unit of product, and to reduce hours worked per person while the number of workers increased only 13 percent. Gains in productivity resulted mainly from improvements in marketing facilities and in production and distribution practices, from increased skill and capability of workers, and from economies of scale. Among the many technological improvements were the substitution of continuous processes for batch methods, improvements in plant layout and materials handling equipment, electronic temperature and humidity controls, and automatic grading and packaging. The effectiveness of management and labor was enhanced by education, experience, and other types of investment in human resources. The number of engineers, technicians, and other highly trained workers employed by marketing firms increased significantly in the postwar years.

Largest gain in eating places.-- The number of workers in eating places increased 30 percent from 1947 to 1963, accounting for two-thirds of the increase in the total number of food marketing workers. About 34 percent of all food marketing workers were in restaurants and other eating places in 1963 compared with 29 percent in 1947. By 1958, employment in eating places exceeded that in retail food stores (table 10).

The large increase in employment in eating places apparently resulted mainly from rapidly rising sales. Dollar sales made by eating places climbed 51 percent from 1953 to 1963. Rising prices accounted for much of this growth. According to the Bureau of Labor Statistics index, prices of food in eating places rose 27 percent during this period. Also, consumers probably did some substituting of higher priced for lower priced foods as incomes and expense accounts rose. Increases in the total quantity of food served, however, caused part of the rise in dollar sales. In addition, services per unit of product probably increased. The output of services per man-hour probably improved less in eating places than in other lines of food marketing because of the nature of the service provided.

Little increase in retail store employment.-- The number of workers in retail food stores reached a postwar high in 1951. Thereafter, it declined steadily to a postwar low in 1958, 6 percent below the 1951 high. Since 1958, the number of workers has risen irregularly. Retail food stores accounted for 31 percent of the food marketing workers in 1963 compared with 34 percent in 1947.

The 1951-58 decline in employment occurred when the retail food trade was being concentrated in fewer stores. The decrease in the number of stores brought about a fuller utilization of workers' time. Further, self-service was being extended, and greater use was made of materials handling equipment.

No increase in food manufacturing employment since 1953.-- The number of

workers engaged in processing domestic farm foods rose irregularly to a post-war high in 1953. It decreased each year from 1960 to 1963, when it was 5 percent below 1960. Employment has fluctuated more from year to year in food manufacturing than in other lines of domestic farm-food marketing. Some fluctuation in employment and output would be expected because of variations in the production of farm products.

Fastest growth in wholesale trade.--
The most rapid growth in food marketing employment was in wholesaling and assembling establishments. The number of persons engaged in assembling and wholesaling domestic farm-originated food products was 36 percent larger in 1963 than in 1947.

Employment in Marketing Farm-Originated Nonfood Products

It is estimated that the numbers of persons (on a full-time equivalent basis) engaged in marketing farm-originated products bought by consumers in this country were:

	<u>1958</u>	<u>1963</u>
<u>Product</u>	<u>Millions</u>	<u>Millions</u>
Foods	4.6	4.8
Nonfoods	<u>3.3</u>	<u>3.6</u>
Total	7.9	8.4

The number of nonfood marketing workers has been estimated only for 1958 and 1963. Most firms that wholesale and retail domestic farm-originated products also handle products not originating on American farms, and many firms that process domestic farm-produced raw materials

also process other materials. For this reason it is necessary to prorate employment to estimate the number marketing domestic farm-originated products only. The proration of employment between products of domestic farm origin and others was made by using sales data and information regarding the types of raw materials used in the various products. 5/

Persons engaged in marketing nonfood products represented 43 percent of the total in 1963. The number of these persons increased 9 percent from 1958 to 1963, compared with an increase of 4 percent for food marketing workers. These nonfood products are approximately those covered by the nonfood marketing bill (p. 17). However, not all adjustments to make employment numbers exactly comparable to the marketing bill data have been made.

The estimated number of workers engaged in marketing nonfood products included those in manufacturing, wholesaling, and retailing of apparel and other finished textile products, leather articles, tobacco products, and alcoholic beverages--produced principally from raw materials originating on American farms. The estimated number of workers also includes those assembling cotton, wool, tobacco, and other farm products from which the finished products are made.

Although the total number of persons engaged in manufacturing these products increased from 1958 to 1963, decreases occurred in industries manufacturing textile products, tobacco, leather articles, and alcoholic beverages. Employment increased only in apparel manufacturing. The number engaged in wholesaling and retailing increased during this period.

5/ Information used for prorating was drawn from the Census of Manufactures and trade publications. Sales and employment data were taken from the Census of Manufactures, the Census of Business, and reports of the Bureau of Labor Statistics.

EMPLOYMENT IN THE FINAL MANUFACTURE OF SUPPLIES AND EQUIPMENT USED BY FARMERS IN 1950 and 1960 1/

Farm employment has been declining while output of raw food and fiber has been increasing. Some of the reduction in manpower on farms has been caused by the substitution of industrially produced inputs for farm labor. To what extent has the reduction in farm labor been offset by additional labor in industry needed to produce the increased flow of supplies and equipment to farmers? To answer this question, employment in the final manufacture of farm supplies and equipment has been estimated on the basis of average employment per dollar of sales. This analysis indicates that the increased quantity of raw food and fiber has been produced with reduced manpower, both on the farm and in industry.

Approximately 285,000 persons were employed in the final manufacture of supplies and equipment purchased by farmers for use in agricultural production in 1960, 31 percent less than in 1950 (table 11). Farm employment declined 28 percent during the same period while farm output increased 23 percent. 2/

The decline in final manufacturing employment is explained by the significant increases in shipments per employee in the various industries (table 11). Increases in farmer's expenditures for supplies and equipment were more than offset by increased shipments per employee.

Employment in the final manufacture of these products does not include that in the basic and intermediate industries supplying the final manufacturers.

Procedure and Estimates

The first step in the estimating procedure was to get farmers' expenditures for various categories of supplies and equipment (table 11). These were reduced to a manufacturers' price-level basis. For each industry manufacturing these products, shipments per employee were obtained from the annual Survey of Manufacturing. A weighted average shipment per employee was computed for each category of expenditure.

Expenditures in terms of manufacturers' prices were divided by the weighted average shipment per employee to get the number of people employed. The total was 414,000 in 1950 and 285,000 in 1960. These figures represent employment in the final manufacture of supplies and equipment used by farmers but do not include employment in the production of intermediate and basic inputs used in final manufacture.

Illustration of method.--The expenditure category of "Repair Items for Motor Vehicles and Machinery" is used as an illustration. The industries of origin were selected and their weights calculated. 3/ From the Bureau of the Census 1950 and 1960 annual Survey of Manufacturing, the number of employees and shipments were found for the given industries. From these data and the weights given in table 12, a weighted average shipment per employee was derived (table 13).

In 1960, farmers spent \$744,050,000 on repair items for motor vehicles and farm

1/ Prepared by Ralph A. Freund, agricultural economist, Marketing Economics Division, Economic Research Service, USDA. The author thanks the following persons for their assistance: Charles Cobb, Q. Francis Dallavalle, Elizabeth Hall, Reubin Hecht, Robert Masucci, Mardy Myers, Harry Norcross, and Williams Wesson.

2/ Derived from data in Agricultural Statistics, 1962, tables 648 and 663.

3/ Weights were calculated from data in Dollar Volume of Agriculture's Transactions with Industry by Robert H. Masucci, MRR 375, AMS, USDA, Dec. 1959, table III, Part B, page 19.

Table 11.--Employment at final level of manufacture resulting from expenditures for farm supplies and equipment

Supplies and equipment	1950			1960		
	Cash : expenditures : by farm : operators 1/:	Weighted : average : shipment per : employee	Employment : at final : level of : manufacture	Cash : expenditures : by farm : operators 1/:	Weighted : average : shipment per : employee	Employment : at final : level of : manufacture
	<u>1,000 dollars</u>	<u>Dollars</u>	<u>Number</u>	<u>1,000 dollars</u>	<u>Dollars</u>	<u>Number</u>
Feed	3,329,700	41,144	39,816	4,842,100	62,902	37,873
Fertilizer and lime	977,500	19,482	40,641	1,461,900	33,887	34,944
Building materials	1,565,278	11,183	104,977	1,555,800	17,522	66,593
Petroleum and oil	1,222,499	67,640	8,675	1,544,973	110,866	6,689
Repair items for motor vehicles and machines ..	548,006	16,007	21,568	744,050	25,640	18,282
Miscellaneous hardware ..	126,514	9,846	10,151	166,756	15,290	8,616
Small hand tools	20,273	8,774	1,918	29,629	16,530	1,488
Containers	149,517	11,942	10,392	129,108	15,632	6,855
Binding materials	75,417	12,968	4,652	68,396	15,704	3,484
Pesticides	160,700	25,151	4,984	287,200	44,922	4,987
Veterinary medicines	84,818	29,453	1,325	115,613	32,725	1,625
Greenhouse and nursery supplies	37,046	10,966	2,399	50,099	12,720	2,796
Dairy supplies	44,656	17,935	2,042	52,923	30,262	1,434
Harness and saddlery	17,000	12,721	1,283	8,000	12,721	604
Tractors	715,145	2/14,055	41,723	499,801	2/21,820	18,783
Other farm machinery and equipment	1,242,241	2/14,055	66,288	1,272,000	2/21,820	43,721
Trucks and autos	973,869	15,528	51,428	816,600	25,446	26,315
Total	11,290,179		414,262	13,644,948		285,089

1/ Data from Cash Expenditures for Production Supplies and Equipment by Farm Operators, Farmer Cooperative Service, USDA, 1950 and 1960.

2/ Data for industries manufacturing tractors and other farm machinery and equipment were combined to calculate weighted average shipments per employee for these industries.

Table 12.--Industries of origin for repair items on motor vehicles and machinery

Industry	Percent of manufacturers' value	Manufacturers' value <u>1/</u>	Purchasers' value <u>1/</u>
	Percent	1,000 dollars	1,000 dollars
Organic chemicals (anti-freeze)	4.4	17,049	26,358
Tires and inner tubes ...	24.1	94,102	179,800
Tractor parts	19.2	75,014	121,754
Other farm machinery parts	39.2	152,910	198,776
Motor vehicle replace- ment parts	13.1	51,044	87,810
Total	100.0	390,119	614,498

$$\frac{\text{Manufacturers' value}}{\text{Purchasers' value}} = \frac{390,119}{614,498} = 63 \text{ percent}$$

1/ From Dollar Volume of Agriculture's Transactions with Industry, MRR 375, AMS, USDA, Dec. 1959, table III, Part B, page 19.

Table 13.--Derivation of weighted average shipment per employee for repair items on motor vehicles and machinery

Items	Employees	Shipments	Shipments per employee	Weights	Column 3 times column 4
	Number	1,000 dollars	Dollars	Percent	Dollars
<u>1950</u>					
Organic chemicals, nec	86,143	2,195,234	25,484	4.4	1,121.3
Tires and inner tubes	89,520	1,724,704	19,266	24.1	4,643.1
Tractors and farm machinery ..	166,258	2,336,775	14,055	58.4	8,208.1
Motor vehicles and parts	720,788	<u>1/11,192,198</u>	15,528	13.1	2,034.2
					<u>2/16,007.0</u>
<u>1960</u>					
Organic chemicals, nec	77,763	3,735,169	48,033	4.4	2,113.4
Tires and inner tubes	92,003	2,844,255	30,915	24.1	7,450.5
Farm machinery and equipment ..	99,115	2,162,640	21,820	58.4	12,742.9
Motor vehicles and parts	651,441	<u>1/16,576,741</u>	25,446	13.1	3,333.4
					<u>2/25,640.0</u>

1/ Product shipments 37171 and 37172.

2/ Weighted average shipment per employee for expenditure category.

machinery. Multiplying by 63 percent gives \$468,751,500 at manufacturers' prices. This divided by \$25,640, the weighted average shipment per employee in 1960, gives 18,282 as the estimated number of employees.

In 1950, farmers spent \$548,006,000 on repair items for motor vehicles and farm machinery. Multiplying by 63 percent gives \$345,243,780 in terms of manufacturers' prices. This divided by \$16,007, the weighted average shipment per employee for 1950, yields 21,568 employees.

RECENT RESEARCH ON THE MARKETING OF SWEETPOTATO FLAKES 1/

Instant sweetpotato flakes, a recently developed product, have several characteristics that are expected to increase the market for sweetpotatoes: (1) Sweetpotato flakes can be made from sweetpotatoes that are unsuitable for marketing fresh or for canning because of appearance, size, or shape rather than lack of soundness or nutritive value. A substantial part of the production frequently is of this condition. (2) The product requires little preparation before serving. (3) Transportation and handling costs are lower for flakes than for fresh or canned sweetpotatoes because of differences in weight and bulk. (4) Fresh sweetpotatoes are highly perishable, a characteristic not shared by sweetpotato flakes. 2/ Also, fresh flavor retention by the flakes is considered superior to that of other presently available processed forms of sweetpotatoes.

An institutional market test showed highly favorable reactions to instant sweetpotato flakes by restaurant operators and chefs. 3/ The test showed a good potential for the product in the institutional market. To build a large market for the product, however, sales to household consumers must be greatly expanded. The Economic Research Service initiated preliminary research to assess the retail market potential for the new product. 4/

Introduction into the household market was delayed because of technical problems in packaging sweetpotato flakes in a 4-to-6 serving flexible pouch. Many in the food industry could foresee no success for the product if it was packed in tin cans. A glass jar could meet the necessary technical requirements, but many felt that it did not fit the consumer's image of instant food in a flexible pouch enclosed in a paper box. It was considered desirable to test-market sweetpotato flakes in tin cans, glass jars, and flexible pouches in paper boxes for two reasons: To determine the type of package which offers the best potential, and to measure how much customers might discriminate against jars and cans in favor of a paper box with a flexible pouch insert in selecting sweetpotato flakes.

Small-scale or micro-test experiments, relatively new in marketing research, have been used in testing new products by commercial research firms with apparently satisfactory results. Such tests in a simulated supermarket, followed by tests in several retail stores, were conducted in the summer and fall of 1963. 5/ These small-scale test should not be considered conclusive but only as indicative of what may occur when sweetpotato flakes in different types of packages are introduced commercially.

1/ Prepared by H. W. Kerr and O. C. Hester, agricultural economists, Marketing Economics Division, Economic Research Service, USDA.

2/ The Southern Utilization Research Division of the Agricultural Research Service developed this product. Technical details are given in the following publication. Deobald, Harold J., McLemore, Taylor A., McFarlane, Vernon H., and others, Precooked Dehydrated Sweetpotato Flakes, U.S. Agricultural Research Service, ARS 72-23, February 1962.

3/ Dwoskin, P. B., Hester, O. C., Kerr, H. W. Jr., and Bayton, J. A., Market Test of Instant Sweetpotatoes in Selected Institutional Outlets, MRR 580, Economic Research Service, January 1963.

4/ The several phases of market assessments were in cooperation with the following agencies: The Louisiana Sweetpotato Commission; Louisiana State Department of Agriculture; Louisiana Agricultural Experiment Station; Universal Foods, Inc., Milwaukee, Wis.; Continental Can Co., Chicago, Ill.; Owens-Illinois Co., New Orleans, La.; Lengsfeld Bros., New Orleans, La.; and the Southern Utilization Research and Development Division, Agricultural Research Service.

5/ Universal Marketing Research, Inc., New York, N.Y., carried out the simulated supermarket test. USDA personnel were in charge of the retail store test.

The Simulated Supermarket Test

Five ounces of sweetpotato flakes, approximately 4 to 6 servings, were packaged in tin cans, glass jars, and in two flexible pouches fitted in a box. The same label was used on each type of package with some adaptation to fit the container. The label, designed by the Louisiana Sweetpotato Commission for the test, was printed in flat color without pictures or recipes and carried simple instructions for reconstitution.

The purpose of the first part of the experiment was to observe the selection of sweetpotato flakes in a simulated supermarket in a mobile 2-room trailer parked in a shopping center on Long Island, N.Y.

The first room in the trailer was used to display instant white potato flakes, canned sweetpotatoes, and instant sweetpotato flakes. The type of packaging for the sweetpotato flakes in the display was rotated throughout the test period. Each shopper was allowed to select one product from the display.

Of the 218 shoppers who participated in the test in the first room, 9 percent selected sweetpotato flakes, 45 percent selected white potato flakes, and 46 percent selected canned sweetpotatoes. Among those who selected sweetpotato flakes, 50 percent selected the glass jar, 28 percent selected the tin can, and 22 percent selected the paper box.

After this selection, the shoppers were guided to a second room where those initially selecting sweetpotato flakes could switch to another type package of sweetpotato flakes. Those selecting white potato flakes or canned sweetpotatoes in the first room were given an opportunity to switch to sweetpotato flakes in any type of container.

In the second room, 30 percent of the shoppers who had initially selected canned sweetpotatoes and 41 percent of those who had selected white potato flakes switched to sweetpotato flakes. Of the 71 shoppers who switched, 59 percent chose the jar,

21 percent the box, and 20 percent the can. When those who had initially selected sweetpotato flakes were given the opportunity to select a different type of package, the majority who originally chose the box or can switched to a jar. Those who initially selected a jar did not switch.

The results of the simulated supermarket test indicated, among other things, that the glass container had the greatest impulse appeal. Also, the impulse choice was strongly maintained even when other package types were offered in exchange. And the low incidence of initial choice of sweetpotato flakes compared to commercially established products pointed out the need for a strong introductory promotion program.

Actual Supermarket Test

The second phase of the test was conducted in 5 supermarkets of a regional chain in Baltimore, Md. The purpose of this phase was to test the findings of the mobile trailer experiment in an actual sales situation. The specific objectives were to determine (1) the type container which induced the highest rate of sales, (2) the effect of a price differential to reflect actual differences in packaging costs, and (3) the effect of various in-store promotional techniques on sales of the product. Testing began the weekend shopping period of November 7 and continued through the third weekend period in December 1963. This time period allowed for rotation in the supermarkets of carefully controlled experiments for measuring the effect of such variables as price, size of display, and special displays on the sale of sweetpotato flakes in 3 package types.

Experimental procedures.--Two types of containers were displayed simultaneously in each of the 5 stores. Shelf locations were maintained as nearly alike as possible, as were the number of rows and facings of each test product. In 3 stores, all containers were priced at 35 cents, and in 2 stores the can was priced at 33 cents and the jar and box at 35 cents. The 2-cent differential

represents a fairly close approximation of the actual difference in commercial cost of the tin can and the other 2 types of containers.

To stimulate purchases, shoppers were given booklets containing recipes developed specifically for sweetpotato flakes and coupons redeemable at the cash register for 10 cents off on any purchase of sweetpotato flakes. These incentives were distributed in all test stores by demonstrators hired by the Louisiana Sweetpotato Commission. Demonstrators handed the coupons only to shoppers who passed through the aisle where sweetpotato flakes were displayed. Distribution was between the hours of 4:30 p.m. and 8:30 p.m. on Thursday and Friday and 10 a.m. and 2 p.m. on Saturday. These time periods were chosen because the maximum in-store customer traffic was during these hours. (According to the store management, 60 percent of the total daily customer traffic was during these hours.)

Hourly shelf audits were taken of all packages of sweetpotato flakes in each of the 5 stores. Shelf displays of the test product were replenished before each hourly test period and also at the beginning or end of each test day. In addition, the demonstrator in each store recorded the number of coupons distributed each hour. The demonstrator also recorded the number of customers who refused the coupon and the total number of customers who passed by the display each hour. (In some stores, the latter was not possible to obtain for each hourly period.)

Test Results

During the November 7-9 period, 1,375 coupons were distributed in the 5 stores and 507 customers redeemed their coupons towards purchases of sweetpotato flakes. The coupon redemption rate was 37 percent.

On the basis of the number of check-outs, it was estimated that 26,000 persons

shopped in the test stores during the 3 days of the experiment. Assuming that the previously mentioned 60 percent of the customers were in the test stores during the 12 hours of the experiment, about 16,000 customers could have been exposed to displays of sweetpotato flakes in 3 different container types. Thus, the 507 purchases represented a little more than 3 percent of the estimated 16,000 customers. However, it cannot be assumed that all of the customers had an opportunity to purchase sweetpotato flakes; many may not have passed through the aisle where the sweetpotato flakes were displayed. Based on customer counts by demonstrators, an estimated 14 percent of the customers in the test stores were exposed to the new product and almost a fourth bought it.

Sales of sweetpotato flakes by type of container for each store were as follows:

Store 1	can-39 percent	box-61 percent
Store 2	can- 8 percent	jar-92 percent
Store 3	jar-59 percent	box-41 percent
<u>6/</u> Store 4	can-44 percent	box-56 percent
<u>6/</u> Store 5	can- 9 percent	jar-91 percent

Examining the sales data of each store, we note the following: (1) In every instance where the glass jar was offered in competition with the can or box, the greater sales response was for the glass jar. This occurred even when the price of the can was reduced 2 cents. Sales of sweetpotato flakes in glass jars were approximately 10 times those in cans, with or without the application of the 2-cent price reduction. The significance of this finding is reinforced by the similarity of results in the independently conducted mobile trailer test. (2) Sales response to the box in competition with the can, at a similar price, was at a ratio of slightly more than 3 to 2. When the box was sold in competition with the can at 2 cents less, sales response to the box was reduced to a ratio of approximately 11 to 9.

From observations made in the stores, it seems that when the jar was displayed

6/ Stores at which the price of sweetpotato flakes in cans was 33 cents, 2 cents lower than those in other containers.

beside the can, and to a lesser extent the box, shoppers did not notice the other container. Part of the greater attraction of the 5-ounce glass jar may be explained by its larger size relative to the can. But in large measure, the popularity of the glass jar was due to the fact that potential buyers liked to see the new product. The storage feature of the jar--part of the contents could be used and the remainder stored until needed--also was considered a plus factor.

The box with 2 pouches seemed to be popular with single persons and 2-member families. Easier portion control with the 2 pouches than with the can or jar appeared to be the rationale for this preference.

Following the first intensive 3-day coupon promotion, a different form of merchandising and pricing was tried in subsequent weekend shopping periods. In 2 stores a coupon worth 10 cents off the market price was attached to each package. In 3 stores all packages were priced at 29 cents and the following week at 2 for 49 cents. Equal volumes of sweetpotato flakes were sold at 29 cents and at 2 for 49 cents. Fewer individual purchases were made at the latter price, however, in some stores, in store promotions such as varying display size and "dump" and formal end-of-aisle special displays were used. The best responses were to the "dump" and formal end-of-aisle displays. Sales of the test products were substantially higher in those stores in which these techniques were used.

Implication of Results and Some Tentative Conclusions

In all phases of the test, consumers rated glass jars higher than the box with 2 pouches or the tin can. In fact, the overwhelming preference for the glass jar

may even indicate a basic change in consumer package preference. The desire of the food shopper to see a new product may be of more importance than heretofore thought. Of course, part of the strong preference for glass could have been partially overcome by the use of an attractive carton showing a picture of flakes. Regardless of package type, recipe information on the package also will be of importance in introducing this product, since the consumers' decision to buy was predicated in part on knowledge of the product's convenience and versatility.

The convenience of instant sweetpotato flakes appears to be their strongest selling point. Another is their versatility; they can be made into several different types of dishes. ^{7/} At first glance, many shoppers seemed to visualize sweetpotato flakes only in the form of mashed sweetpotatoes. The recipe booklet and informal talks by the demonstrator helped make shoppers aware that the product could be used in casserole dishes, as pies, and even that a form of candied sweetpotatoes could be prepared. Because consumers most frequently prepare sweetpotatoes in candied form, this last point should be emphasized when the product is packaged for commercial distribution in retail food outlets.

The test also indicated that some kind of in store promotion or special display is desirable. Price reductions did not seem to materially affect sales in the short run compared to other promotional devices used in the test. If the product is priced at a level competitive with other forms of sweetpotatoes, pricing should not be a problem.

Finally, it appears that this new form of sweetpotatoes attracts new household users rather than established users of other forms of sweetpotatoes. Spot-check examinations during the testing period

^{7/} The importance of these attributes is reinforced by the findings published in a recent research report, Household Consumers' Acceptance of Instant Sweetpotato Flakes, MRR 663, Statistical Reporting Service, U.S. Department of Agriculture, July 1964.

indicated that the sale of sweetpotato flakes had little or no adverse effect on the sale of fresh and canned sweetpotatoes. These observations were confirmed by

the managers of the test supermarkets. This is important to sweetpotato producers, since it points toward potentially increased total sales for sweetpotatoes.

TRENDS IN THE SCHOOL MARKET FOR FOOD 1/

The Nation's schools provide an important and rapidly expanding market for food. During the school year 1962-63, foods with a wholesale value of \$929 million moved through lunchrooms in about 66,000 public elementary and secondary schools. Additional foods valued at \$77 million were used in approximately 6,500 private schools offering food services. The school outlet, therefore, accounts for about \$1 billion in foods.

Five years earlier, public school lunchrooms were providing an outlet for foods valued at \$597 million; thus there has been a gain of \$332 million or 56 percent over levels in 1957-58. Wholesale food prices rose about 6 percent during this 5-year period; hence, the increase was largely in the volume of food moving through this market.

Expansion of the school food market resulted primarily from larger school enrollment and increased availability of school lunch services. In 1957-58, slightly over 21 million public school children had access to school lunch services. Five years later, this number had increased to nearly 28.5 million. In private schools the number of pupils having lunches available increased by 400,000.

Most of the expansion in lunch service availability and the attendant increased use of food occurred within the framework of the National School Lunch Program. During 1962-63 approximately 64 percent of the Nation's 112,000 public and private schools, representing 75 percent of U.S. student enrollment, participated in the Federal program. The National School Lunch Program is administered by the

U.S. Department of Agriculture in cooperation with State education agencies. Schools participating in the Federal program receive cash and commodity donations to help them serve well-balanced lunches at less than full cost. The school outlet is one means of utilizing commodities acquired by the Government through price stabilization and surplus removal programs. Children participating in lunch programs are exposed to new foods in new forms, learning at the same time the idea of a well-balanced lunch and the importance of good eating habits.

National School Lunch Program and Food Consumption in Schools

Schools participating in the National School Lunch Program report higher food consumption on a per capita basis than schools operating lunch service apart from the Federal program. National School Lunch Program schools (public and private) had a per capita consumption of 196 pounds of food with a wholesale value of \$32.67 during the school year surveyed. 2/ This compares with other schools having food service in which pupils consumed an average of 169 pounds of food with a value of \$31.45.

Examples of this difference are illustrated by three categories of food: (1) Milk and milk products; (2) meat, poultry and fish, and (3) fresh fruits and vegetables. For milk and milk products, the per capita consumption in National School Lunch Program schools was the equivalent of about 100 pounds of whole milk (fat solids basis) during the 1962 school year, or a dollar value of \$12.27. Children in other food service schools consumed the

1/ Prepared by Martin Kriesberg, agricultural economist, Marketing Economics Division, Economic Research Service, USDA.

2/ This is based on average daily attendance; about one-half the pupils eat school lunches on any given day and hence the quantities and values of food consumed by a student eating the plate lunch every day would be roughly double the average amounts indicated. The weight of milk products except butter is in terms of the whole milk equivalent (fat solids basis).

equivalent of 70 pounds of milk products per capita with a value of \$9.14. For the group of meat, poultry, and fish products, per capita consumption in National School Lunch Program schools was about 15.7 pounds or \$6.95 in value; among other schools serving lunch, consumption averaged 14.4 pounds and had a value of about \$6.91 during the 1962-63 year. For fresh fruits and vegetables, per capita consumption in National School Lunch Program schools was similarly higher; pupils in Program schools consumed an average of 9.1 pounds of fresh fruit and vegetables with a value of \$1.03. Pupils in schools with lunch service outside of the National School Lunch Program consumed about 5.8 pounds with a value of \$0.74 during the school year.

The greater food consumption in National School Lunch Program schools may be attributed, in part, to food donations received by schools participating in the Federal program. These donations had a value of about 7 cents per lunch served. (In addition, approximately 4 cents was in the form of cash payments to the schools.) Of greater importance, however, are the nutritional requirements established for plate lunches under the Program. Differences in consumption between participating and nonparticipating schools generally reflect consumption of plate lunches on the one hand and pupil selection of a la carte items on the other.

These were some of the findings in a sample survey conducted during the school year 1962-63 of the Nation's schools providing lunch service. The study was one in a series on public food distribution programs and is part of a broad program of research aimed at expanding markets for agricultural products.

Food Used in the Schools

The value of food going into school lunches averaged about 31 cents per

meal during the 1962 study period. This sum varied somewhat by school characteristics: Elementary school lunches averaged 27 cents; secondary school lunches (with larger portions) averaged over 34 cents.

Milk and milk products were by far the largest items in the cost of school lunches; fluid milk alone accounted for about 6.0 cents in the average lunch.^{3/} Meat was the second largest item; red meats averaged 4.5 cents per lunch served. Of course, red meats were not served in every lunch; a portion of red meat, when served, would often have a higher value. Fruits and vegetables in all forms, including juices (but not potatoes), had an average cost per meal of 4.3 cents; canned fruits and vegetables accounted for 3.1 cents of this amount.

Table 14 indicates the amount of food that moved into the public school market in 1957-58 and 1962-63, and the per capita consumption of each food group. There was a substantial increase in the per capita use of milk, meat, and poultry during the 5-year period following 1957; per capita consumption of poultry especially was higher. These increases resulted from a general upgrading of menus and, in part, from the assistance of Federal programs, particularly in milk and poultry.

There was little gain in per capita consumption of vegetables. Total consumption of potatoes and sweet potatoes was up somewhat owing to the introduction of frozen and other processed forms, but per capita consumption was down slightly. Frozen food usage was up sharply during the period studied. Over \$11 million was spent by schools on packaged frozen food; fruits and vegetables made up \$3.7 million of this. Frozen fish sticks and potatoes (mostly in the form of french fries) were the other two major categories.

^{3/} This does not include milk consumed in the schools at times other than lunch. About 50 percent of the consumption of milk in schools was with lunches, 40 percent was consumed at times other than lunch in these schools, and 10 percent was in schools serving milk, but no lunch.

Table 14.--Quantity and wholesale value of foods used in public schools with lunch programs, total and per pupil,
July 1957 - June 1958 and July 1962 - June 1963

Food groups	1957-58						1962-63					
	Quantity of food			Value of food			Quantity of food			Value of food		
	Mil. lb.	Lb.	Mil. dol.	Total	Per pupil	Dol.	Mil. lb.	Lb.	Mil. dol.	Total	Per pupil	Dol.
Milk and milk products ^{1/}	2,350.9	109.3	231.2	10.76	3,357.1	117.8	341.7	12.00				
Fluid milk	1,776.4	82.7	192.3	8.94	2,614.0	91.8	285.2	10.02				
Other milk products	574.5	26.6	38.9	1.82	743.1	26.0	56.5	1.98				
Meat, poultry, fish	239.9	11.2	107.5	5.01	444.8	15.6	197.5	6.93				
Meat	182.3	8.5	83.0	3.87	274.0	9.6	135.0	4.74				
Poultry ^{2/}	29.6	1.4	11.7	.54	125.9	4.4	40.7	1.43				
Fish	28.0	1.3	12.8	.60	44.9	1.6	21.8	.76				
Fats and oils (including butter)	96.2	4.5	43.5	2.02	149.0	5.2	65.9	2.31				
Flour and other cereal products	138.7	6.5	15.1	.70	217.0	7.6	24.8	.87				
Eggs	38.5	1.8	10.0	.46	51.9	1.8	15.1	.53				
Bakery products	218.9	10.2	45.8	2.13	286.6	10.1	63.0	2.21				
Fruits	253.4	11.8	34.3	1.60	377.7	13.3	52.4	1.84				
Fresh	74.6	3.5	6.4	.30	93.8	3.3	10.2	.36				
Canned	178.8	8.3	27.9	1.30	283.9	10.0	42.2	1.48				
Vegetables	417.9	19.5	50.6	2.35	567.7	19.9	70.2	2.47				
Fresh	139.4	6.5	14.4	.67	165.8	5.8	19.2	.68				
Canned	278.5	13.0	36.2	1.68	401.9	14.1	51.0	1.79				
Potatoes and sweetpotatoes	205.4	9.6	13.7	.64	268.8	9.4	23.7	.83				
Frozen fruits and vegetables	7.5	.4	1.5	.07	18.2	.6	3.7	.13				
Juices (all kinds)	10.6	.5	1.3	.06	39.3	1.4	2.9	.10				
Dried fruits and vegetables	32.2	1.5	3.6	.17	36.3	1.3	3.4	.12				
Beverages	12.0	.6	4.1	.19	48.2	1.7	8.0	.28				
Sugar, sweets	60.7	2.8	8.3	.39	103.9	3.6	14.3	.50				
Miscellaneous foods	113.6	5.3	26.5	1.23	167.3	5.9	42.9	1.51				

^{1/} Whole milk equivalent, fat solids basis, excluding butter.

^{2/} Ready-to-cook weight.

Federal donations made up a large part of the butter, eggs (dried), and flour and other cereals used in the school lunch program; these donations were also a major part of the total commodity contribution by the Federal Government (together with poultry) during the 1962-63 school year.

Trends in Participation and the School Lunch Market

Developments in the School Lunch Program since 1957 and the Census projections of school enrollments for the next decade permit some estimates of the school lunch market in the years ahead. The Census projections of school enrollments, which are based on three different assumptions, range from 48.1 million to 48.9 million students in the elementary and secondary schools by 1965. These projections lead to 1975 estimated enrollments of 51.8 million to 58.4 million,

depending on the assumptions followed. If the proportion of all schools offering lunch service continues, as reported in 1962, school lunches would be available to about 39 million students in 1965 and to 42 million to 46 million pupils by 1975. The trend from 1957 to 1962 was for an increasing proportion of the schools to offer some lunch service; hence, the estimates given above seem conservative. An increase over the 1962 school lunch market of at least 25 percent is thus indicated by 1975.

If an enrollment of 55 million is assumed for 1975 and if 1962 patterns of school participation hold substantially the same, about 44 million pupils will have lunch service available in their schools. About 22 million plate lunches would be eaten on an average day in 1975 if 1962 patterns of pupil participation hold about the same. This compares with about 16 million lunches consumed daily during 1964.

SELECTED NEW PUBLICATIONS

1. "A Guide to Lower Costs and Greater Efficiency in Curing Cattle Hides," by John W. Thompson, U. S. Dept. Agr., Econ. Res. Ser., AER-54, May 1964.
2. "Distribution Patterns of Rice in the United States," by Edward J. McGrath, U. S. Dept. Agr., Econ. Res. Ser., ERS-186, July 1964.
3. "Economic Potential of Soaps, Detergents, and Surfactants Made From Fats and Oils," by H. C. Speel and E. J. Poats, U. S. Dept. Agr., Econ. Res. Ser., AER-53, Apr. 1964.
4. "Fiber and Spinning Properties of Cotton as Affected by Certain Harvesting and Ginning Practices Yazoo-Mississippi Delta, 1959-60," by Franklin E. Newton, E. W. S. Calkins, and Anselm C. Griffin, U. S. Dept. Agr., Econ. Res. Ser., MRR-656, June 1964.
5. "Household Consumers' Acceptance of Instant Sweetpotato Flakes," by Don S. Hollon, U. S. Dept. Agr., Statistical Reporting Service, MRR-663, July 1964.
6. "Market Potentials for Modified Edible Fats and Oils," by O. C. Hester and Richard L. Boggs, U. S. Dept. Agr., Econ. Res. Ser., MRR-659, May 1964.
7. "Operating Procedures and Labor Utilization in Cottonseed Oil Mills, 1961-62 Season," by Thomas B. Smith, U. S. Dept. Agr., Econ. Res. Ser., ERS-179, July 1964.
8. "Pilot Food Stamp Program - Impact on Retail Food Store Sales in Avoyelles Parish, La.," by Nick Havas, U. S. Dept. Agr., Econ. Res. Ser., AER-55, May 1964.
9. "Reclaiming and Marketing Cotton Gin Motes," by Shelby H. Holder, Jr. and Zolon M. Looney, U. S. Dept. Agr., Econ. Res. Ser., ERS-168, May 1964.
10. "Retail Sales of Broilers and Meat as Affected by Price, Display Area, and Newspaper Advertising," by Sidney E. Brown, U. S. Dept. Agr., Econ. Res. Ser., ERS-180, May 1964.
11. "Selected Operating Costs for Storage of Sorghum Grain," By C. A. Bonnen and W. C. Cunningham, Texas Agr. Expt. Sta., B-1009, Apr. 1964. (U. S. Dept. Agr. cooperating.)
12. "Some Effects of Gin Drying and Cleaning of Cotton on Fiber Length Distribution and Yarn Quality," by John E. Ross and Edward H. Shanklin, U. S. Dept. Agr., Econ. Res. Ser., MRR-666, July 1964.
13. "The Great Lakes Tart Cherry Industry - Production Costs," by C. C. Dennis, B. A. Dominick, and B. W. Kelly, U. S. Dept. Agr., Econ. Res. Ser., ERS-171, May 1964. (Agr. Expt. Stas. of N. Y., Penna., Mich., cooperating.)
14. "The Structure of Wholesale Produce Markets," by Alden C. Manchester, U. S. Dept. Agr., Econ. Res. Ser., AER-45, Apr. 1964.

Publications issued by State Agricultural Experiment
Stations may be obtained from the issuing Station.

: The Marketing and Transportation Situation is published in February, :
: May, August, and November. :
:

: The next issue is scheduled for release on November 21, 1964. :
:

Table 15.-Farm food products: Retail cost and farm value, April-June 1964, January-March 1964, April-June 1963 and 1957-59 average 1/

Product 2/	Retail unit	Retail cost						Net farm value 3/					
		Apr.-	Jan.-	Apr.-	1957-59	Percentage change	Apr.-	Jan.-	Apr.-	1957-59	Percentage change	Apr.-	Jan.-
		June	Mar.	June	average	from	June	Mar.	June	average	from	Mar.	June
		1964	1964	1963	1964	1964	1964	1964	1963	1964	1964	1964	1963
		Dollars	Dollars	Dollars	Dollars	Percent	Percent	Dollars	Dollars	Dollars	Dollars	Percent	Percent
Market basket		1076.05	1078.03	1071.39	1,037.26	4/	4/	392.35	5/395.40	5/388.43	409.76	-1	1
Meat products		266.28	271.10	271.18	277.43	-2	-2	120.96	123.63	5/129.53	150.65	-2	-7
Dairy products		193.86	201.69	197.72	193.54	-1	1	85.42	89.12	84.73	87.76	-4	1
Poultry and eggs		80.37	87.99	82.42	92.03	-9	-2	46.89	52.53	48.19	56.02	-11	-3
Bakery and cereal products													
All ingredients		172.72	172.54	172.87	159.22	4/	4/	29.01	5/30.84	5/31.52	29.98	-6	-8
Grain	Average	---	---	---	---	--	--	21.48	23.33	24.20	22.33	-8	-11
All fruits and vegetables	quantities												
Fresh fruits and vegetables ..	purchased	268.32	254.38	258.64	227.64	5	4	90.92	5/80.27	5/75.22	65.61	13	21
Fresh vegetables	per urban	162.72	149.25	159.13	134.44	9	2	63.16	5/54.27	5/57.40	46.58	16	10
Processed fruits and	wage-earner	79.00	77.33	72.24	68.70	2	9	26.55	25.35	5/20.62	22.03	5	29
vegetables	and												
Fats and oils	clerical-	105.60	105.13	99.51	93.20	4/	6	27.76	5/26.00	5/17.82	19.03	7	56
Miscellaneous products	worker												
Fats and oils	family	41.86	42.11	42.05	44.33	-1	4/	11.05	10.98	5/11.50	12.49	1	-4
Miscellaneous products	in 1952	47.64	48.22	46.51	43.07	-1	2	8.10	8.03	5/7.74	7.25	1	5
		Cents	Cents	Cents	Cents	Percent	Percent	Cents	Cents	Cents	Cents	Percent	Percent
Beef (Choice grade)	Pound	76.3	78.0	79.1	78.1	-2	-4	39.5	41.3	43.3	49.7	-4	-9
Lamb (Choice grade)	Pound	73.6	73.9	73.0	71.3	4/	1	40.6	37.8	39.0	39.8	7	4
Pork (retail cuts)	Pound	55.5	56.1	55.5	60.7	-1	0	27.6	27.1	28.3	32.5	2	-2
Butter	Pound	75.2	75.3	74.8	74.6	4/	1	54.9	54.8	54.6	51.8	4/	1
Cheese, American process	1/2 pound	37.1	37.2	36.2	32.8	4/	2	14.7	15.2	14.6	14.2	-3	1
Ice cream	1/2 gallon	84.1	84.7	84.6	87.5	-1	-1	6/22.9	6/22.8	6/22.7	22.2	4/	1
Milk, evaporated	14 1/2 ounce can	15.4	15.4	15.4	15.0	0	0	6.4	6.5	6.2	6.2	-2	3
Milk, fluid	Quart	24.9	25.5	24.8	24.5	-2	4/	10.1	10.8	10.0	10.8	-6	1
Chickens, frying, ready-to-cook	Pound	38.3	38.6	40.0	44.9	-1	-4	18.7	19.6	20.4	24.4	-5	-8
Eggs	Dozen	48.4	56.1	49.0	54.5	-14	-1	31.6	36.6	31.4	36.1	-14	1
Bread, white													
All ingredients	Pound	21.4	21.5	21.6	19.3	4/	-1	2.9	5/3.1	3.2	3.0	-6	-9
Wheat	Pound	---	---	---	---	--	--	2.3	2.5	2.6	2.4	-8	-12
Crackers, soda	Pound	31.0	31.0	31.0	29.1	0	0	3.6	4.0	4.1	3.8	-10	-12
Corn flakes	12 ounces	28.7	28.5	28.4	24.7	1	1	2.6	2.4	2.5	2.9	8	4
Corn meal	Pound	14.6	14.5	14.5	12.9	1	1	2.6	2.5	2.5	2.9	4	4
Flour, white	5 pounds	57.9	57.3	57.2	54.8	1	1	17.9	19.8	20.7	18.9	-10	-14
Rolled oats	18 ounces	25.1	24.3	24.1	20.2	3	4	4.1	4.0	4.0	3.8	2	2
Apples	Pound	18.3	15.5	18.7	15.1	18	-2	7.7	5.1	6.9	4.6	51	12
Grapefruit	Each	18.8	15.4	17.2	12.5	22	9	5.5	4.2	5.1	2.5	31	8
Lemons	Pound	20.6	21.6	23.4	18.9	-5	-12	4.4	4.8	6.7	4.5	-8	-34
Oranges	Dozen	84.6	79.3	96.4	66.8	7	-12	28.6	28.3	39.5	23.3	1	-28
Beans, green	Pound	27.1	31.5	26.8	24.6	-14	1	12.6	15.0	10.3	10.6	-16	22
Cabbage	Pound	10.9	10.8	10.9	9.0	1	0	2.5	2.3	2.4	2.4	9	4
Carrots	Pound	14.4	14.9	14.4	14.7	-3	0	3.2	2.3	2.7	3.7	39	19
Celery	Pound	14.9	16.3	13.9	15.1	-9	7	4.2	6.3	3.6	4.4	-33	17
Lettuce	Head	17.1	21.7	19.4	17.6	-21	-12	3.9	8.9	6.2	5.9	-56	-37
Onions	Pound	11.6	11.6	11.7	10.3	0	-1	3.0	3.5	4.2	3.4	-14	-29
Potatoes	10 pounds	78.4	64.4	65.0	61.0	22	21	31.4	16.5	5/16.2	17.9	90	94
Sweetpotatoes	Pound	18.4	15.6	13.6	14.8	18	35	7.5	5.7	5/4.2	4.8	32	79
Tomatoes	Pound	36.4	36.1	31.4	30.4	1	16	11.2	13.3	9.5	10.7	-16	18
Orange juice, canned	46 ounce can	64.8	63.4	52.3	41.6	2	24	31.3	29.4	8.3	12.4	6	277
Peaches, canned	No. 2-1/2 can	34.6	33.8	32.6	34.8	2	6	5.4	5.4	6.1	6.1	0	-11
Beans with pork, canned	16 ounce can	15.0	15.1	15.0	14.9	-1	0	2.2	2.2	2.3	2.4	0	-4
Corn, canned	No. 303 can	19.0	19.1	19.2	18.1	-1	-1	2.4	2.4	2.4	2.4	0	0
Peas, canned	No. 303 can	22.7	22.7	22.5	21.0	0	1	2.9	2.9	2.9	3.1	0	0
Tomatoes, canned	No. 303 can	16.2	16.1	15.4	15.8	1	5	2.5	2.5	2.6	2.3	0	-4
Orange juice concentrate, frozen	6 ounce can	31.9	32.8	30.3	23.7	-3	5	17.7	13.3	8.7	8.4	33	103
Strawberries, frozen	10 ounces	28.1	27.7	27.5	26.4	1	2	6.2	6.1	6.3	6.0	2	-2
Beans, green, frozen	9 ounces	23.7	23.7	23.5	22.4	0	1	3.8	3.8	4.1	4.4	0	-7
Peas, frozen	10 ounces	20.8	20.9	21.1	19.7	4/	-1	3.0	3.0	3.0	3.2	0	0
Dried beans (navy)	Pound	17.4	17.6	17.8	17.1	-1	-2	6.4	6.4	6.5	7.0	0	-2
Dried prunes	Pound	40.4	40.2	40.0	35.9	4/	1	14.7	5/14.7	13.7	13.0	0	7
Margarine, colored	Pound	27.6	27.6	27.3	29.1	0	1	6.7	6.7	7.3	7.8	0	-8
Peanut butter	Pound	57.9	57.8	57.7	54.9	4/	4/	19.9	20.2	20.7	18.7	-1	-4
Salad dressing	Pint	38.4	38.5	37.8	37.5	4/	2	6.4	6.4	6.7	6.9	0	-4
Vegetable shortening	3 pounds	80.9	82.3	84.1	93.6	-2	-4	24.1	23.8	26.0	28.2	1	-7
Corn sirup	24 ounces	30.1	30.0	28.5	25.7	4/	6	3.2	3.0	3.1	3.0	7	3
Sugar	5 pounds	68.2	73.5	69.2	56.2	-7	-1	23.6	23.6	5/23.0	20.2	0	3

1/ The methods of calculation and the sources of price data are given in Part II of "Farm-Retail Spreads for Food Products," U. S. Dept. Agr. Misc. Pub. 741, 1957.

2/ Product groups include more items than those listed in this table. For example, the meat products group includes veal and lower grades of beef in addition to carcass beef of Choice grade, lamb, and pork.

3/ Gross farm value adjusted to exclude imputed values of byproducts obtained in processing.

4/ Less than 0.5 percent.

5/ Revised.

6/ Farm value of cream and milk only.

Table 16.--Farm food products: Farm-retail spread and farmer's share of the retail cost, April-June 1964, January-March 1964, April-June 1963 and 1957-59 Average 1/

Product 2/	Retail unit	Farm-retail spread 3/						Farmer's share 4/			
		Apr.-	Jan.-	Apr.-	1957-59	Percentage change		Apr.-	Jan.-	Apr.-	1957-59
		June	Mar.	June	average	Apr.-June 1964		June	Mar.	June	average
		1964	1964	1963		Jan.-	Apr.-	1964	1964	1963	
		Dollars	Dollars	Dollars	Dollars	Percent	Percent	Percent	Percent	Percent	Percent
Market basket		683.70	5/682.63	5/682.96	627.50	6/	6/	36	37	36	40
Meat products		145.32	147.47	5/141.65	126.78	-1	3	45	46	48	54
Dairy products		113.44	112.57	112.99	105.78	1	6/	43	44	43	45
Poultry and eggs	Average quantities purchased	33.48	35.46	34.23	36.01	-6	-2	58	60	58	61
Bakery and cereal products	per urban wage-earner and clerical-worker family in 1952	143.71	5/141.70	5/141.35	129.24	1	2	17	18	18	19
All ingredients		---	---	---	---	---	---	12	14	14	14
Grain		---	---	---	---	---	---	---	---	---	---
All fruits and vegetables		177.40	5/174.11	5/183.42	162.03	2	-3	34	32	29	29
Fresh fruits and vegetables		99.56	5/94.98	5/101.73	87.86	5	-2	39	36	36	35
Fresh vegetables		52.45	51.98	5/51.62	46.67	1	2	34	33	29	32
Processed fruits and vegetables		77.84	5/79.13	5/81.69	74.17	-2	-5	26	25	18	20
Fats and oils		30.81	31.13	5/30.55	31.84	-1	1	26	26	27	28
Miscellaneous products		39.54	40.19	5/38.77	35.82	-2	2	17	17	17	17
		Cents	Cents	Cents	Cents	Percent	Percent	Percent	Percent	Percent	Percent
Beef (Choice grade)	Pound	36.8	36.7	35.8	28.4	6/	3	52	53	55	64
Lamb (Choice grade)	Pound	33.0	36.1	34.0	31.5	-9	-3	55	51	53	56
Pork (retail cuts)	Pound	27.9	29.0	27.2	28.2	-4	3	50	48	51	54
Butter	Pound	20.3	20.5	20.2	22.8	-1	6/	73	73	73	69
Cheese, American process	1/2 pound	22.4	22.0	21.6	18.6	2	4	40	41	40	43
Ice cream	1/2 gallon	61.2	61.9	61.9	65.3	-1	-1	27	27	27	25
Milk, evaporated	14 1/2 ounce can	9.0	8.9	9.2	8.8	1	-2	42	42	40	41
Milk, fluid	Quart	14.8	14.7	14.8	13.7	1	0	41	42	40	44
Chickens, frying, ready-to-cook	Pound	19.6	19.0	19.6	20.5	3	0	49	51	51	54
Eggs	Dozen	16.8	19.5	17.6	18.4	-14	-5	65	65	64	66
Bread, white											
All ingredients	Pound	18.5	18.4	18.4	16.3	1	1	14	14	15	16
Wheat	Pound	---	---	---	---	---	---	11	12	12	12
Crackers, soda	Pound	27.4	27.0	26.9	25.3	1	2	12	13	13	13
Corn flakes	12 ounces	26.1	26.1	25.9	21.8	0	1	9	8	9	12
Corn meal	Pound	12.0	12.0	12.0	10.0	0	0	18	17	17	22
Flour, white	5 pounds	40.0	37.5	36.5	35.9	7	10	31	35	36	34
Rollod oats	18 ounces	21.0	20.3	20.1	16.4	3	4	16	16	17	19
Apples	Pound	10.6	10.4	11.8	10.5	2	-10	42	33	37	30
Grapefruit	Each	13.3	11.2	12.1	10.0	19	10	29	27	30	20
Lemons	Pound	16.2	16.8	16.7	14.4	-4	-3	21	22	29	24
Oranges	Dozen	56.0	51.0	56.9	43.5	10	-2	34	36	41	35
Beans, green	Pound	14.5	16.5	16.5	14.0	-12	-12	46	48	38	43
Cabbage	Pound	8.4	8.5	8.5	6.6	-1	-1	23	21	22	27
Carrots	Pound	11.2	12.6	11.7	11.0	-11	-4	22	15	19	25
Celery	Pound	10.7	10.0	10.3	10.7	7	4	28	39	26	29
Lettuce	Head	13.2	12.8	13.2	11.7	3	0	23	41	32	34
Onions	Pound	8.6	8.1	7.5	6.9	6	15	26	30	36	33
Potatoes	10 pounds	47.0	47.9	5/48.8	43.1	-2	-4	40	26	25	29
Sweetpotatoes	Pound	10.9	9.9	5/9.4	10.0	10	16	41	37	5/31	32
Tomatoes	Pound	25.2	22.8	21.9	19.7	11	15	31	37	30	35
Orange juice, canned	46 ounce can	33.5	34.0	44.0	29.2	-1	-24	48	46	16	30
Peaches, canned	No. 2-1/2 can	29.2	28.4	26.5	28.7	3	10	16	16	19	18
Beans with pork, canned	16 ounce can	12.8	12.9	12.7	12.5	-1	1	15	15	15	16
Corn, canned	No. 303 can	16.6	16.7	16.8	15.7	-1	-1	13	13	12	13
Peas, canned	No. 303 can	19.8	19.8	19.6	17.9	0	1	13	13	13	15
Tomatoes, canned	No. 303 can	13.7	13.6	12.8	13.5	1	7	15	16	17	15
Orange juice concentrate, frozen	6 ounce can	14.2	19.5	21.6	15.3	-27	-34	55	41	29	35
Strawberries, frozen	10 ounces	21.9	21.6	21.2	20.4	1	3	22	22	23	23
Beans, green, frozen	9 ounces	19.9	19.9	19.4	18.0	0	3	16	16	17	20
Peas, frozen	10 ounces	17.8	17.9	18.1	16.5	-1	-2	14	14	14	16
Dried beans (navy)	Pound	11.0	11.2	11.3	10.1	-2	-3	37	36	37	41
Dried prunes	Pound	25.7	5/25.5	26.3	22.9	1	-2	36	5/37	34	36
Margarine, colored	Pound	20.9	20.9	20.0	21.3	0	4	24	24	27	27
Peanut butter	Pound	38.0	37.6	37.0	36.2	1	3	34	35	36	34
Salad dressing	Pint	32.0	32.1	31.1	30.6	6/	3	17	17	18	18
Vegetable shortening	3 pounds	56.8	58.5	58.1	65.4	-3	-2	30	29	31	30
Corn sirup	24 ounces	26.9	27.0	25.4	22.7	6/	6	11	10	11	12
Sugar	5 pounds	44.6	49.9	5/46.2	36.0	-11	-3	35	32	5/33	36

1/ The methods of calculation and the sources of price data are given in Part II of "Farm-Retail Spreads for Food Products," U. S. Dept. Agr. Misc. Pub. 741, 1957.

2/ Product groups include more items than those listed in this table. For example, the meat products group includes veal and lower grades of beef in addition to carcass beef of Choice grade, lamb, and pork.

3/ The farm-retail spread is the difference between the retail cost and the net farm value shown in table on opposite page.

4/ This estimate of the farmer's share does not allow for Government payments to producers.

5/ Revised.

6/ Less than 0.5 percent.

Table 17.--Farm food products: Retail cost, farm value of equivalent quantities sold by producers, byproduct allowance, farm-retail spread, and farmer's share of retail cost, April-June 1964 1/

Product 2/	Farm equivalent	Retail unit	Retail cost	Gross farm value	Byproduct allowance	Net farm value	Farm-retail spread	Farmer's share 3/
			Dollars	Dollars	Dollars	Dollars	Dollars	Percent
Market basket			1076.05	---	---	392.35	683.70	36
Meat products			266.28	---	---	120.96	145.32	45
Dairy products			198.86	---	---	85.42	113.44	43
Poultry and eggs		Average quantities purchased	80.37	---	---	46.89	33.48	58
Bakery and cereal products	Farm produce equivalent to products bought by urban families	per urban wage-earner and clerical-worker family in 1952	172.72	---	---	29.01	143.71	17
All ingredients			---	24.16	2.68	21.48	---	12
Grain			268.32	---	---	90.92	177.40	34
Fresh fruits and vegetables			162.72	---	---	63.16	99.56	39
Fresh vegetables			79.00	---	---	26.55	52.45	34
Processed fruits and vegetables			105.60	---	---	27.76	77.84	26
Fats and oils			41.86	---	---	11.05	30.81	26
Miscellaneous products			47.64	---	---	8.10	39.54	17
			Cents	Cents	Cents	Cents	Cents	Percent
Beef (Choice grade)	2.25 lb. Choice grade cattle	Pound	76.3	43.4	3.9	39.5	36.8	52
Lamb (Choice grade)	2.36 lb. lamb	Pound	73.6	48.3	7.7	40.6	33.0	55
Pork (retail cuts)	2.13 lb. hogs	Pound	55.5	31.7	4.1	27.6	27.9	50
Butter	Cream and whole milk	Pound	75.2	---	---	54.9	20.3	73
Cheese, American process	Milk for American cheese	$\frac{1}{2}$ pound	37.1	---	---	14.7	22.4	40
Ice cream	Cream and milk	$\frac{1}{2}$ gallon	84.1	---	---	4/ 22.9	61.2	27
Milk, evaporated	Milk for evaporating	$14\frac{1}{2}$ ounce can	15.4	---	---	6.4	9.0	42
Milk, fluid	Wholesale fluid milk	Quart	24.9	---	---	10.1	14.8	41
Chickens, frying, ready-to-cook	1.37 lb. broilers	Pound	38.3	---	---	18.7	19.6	49
Eggs	1.03 doz.	Dozen	48.4	---	---	31.6	16.8	65
Bread, white								
All ingredients	Wheat and other ingredients	Pound	21.4	---	---	2.9	18.5	14
Wheat .....	.882 lb. wheat	Pound	---	2.6	.3	2.3	---	11
Crackers, soda	1.38 lb. wheat	Pound	31.0	4.0	.4	3.6	27.4	12
Corn flakes	1.57 lb. white corn	12 ounces	28.7	3.3	.7	2.6	26.1	9
Corn meal	1.34 lb. white corn	Pound	14.6	2.8	.2	2.6	12.0	18
Flour, white	6.9 lb. wheat	5 pounds	57.9	20.0	2.1	17.9	40.0	31
Rolled oats	2.31 lb. oats	18 ounces	25.1	4.6	.5	4.1	21.0	16
Apples	1.08 lb. apples	Pound	18.3	---	---	7.7	10.6	42
Grapefruit	1.04 grapefruit	Each	18.8	---	---	5.5	13.3	29
Lemons	1.04 lb. lemons	Pound	20.6	---	---	4.4	16.2	21
Oranges	1.04 doz. oranges	Dozen	84.6	---	---	28.6	56.0	34
Beans, green	1.09 lb. snap beans	Pound	27.1	---	---	12.6	14.5	46
Cabbage	1.10 lb. cabbage	Pound	10.9	---	---	2.5	8.4	23
Carrots	1.06 lb. carrots	Pound	14.4	---	---	3.2	11.2	22
Celery	1.11 lb. celery	Pound	14.9	---	---	4.2	10.7	28
Lettuce	1.41 lb. lettuce	Head	17.1	---	---	3.9	13.2	23
Onions	1.06 lb. onions	Pound	11.6	---	---	3.0	8.6	26
Potatoes	10.42 lb. potatoes	10 pounds	78.4	---	---	31.4	47.0	40
Sweetpotatoes	1.12 lb. sweetpotatoes	Pound	18.4	---	---	7.5	10.9	41
Tomatoes	1.18 lb. tomatoes	Pound	36.4	---	---	11.2	25.2	31
Orange juice, canned	5.88 lb. Fla. oranges for canning	46 ounce can	64.8	---	---	31.3	33.5	48
Peaches, canned	1.89 lb. Calif. cling	No. 2-1/2 can	34.6	---	---	5.4	29.2	16
Beans with pork, canned .....	.35 lb. Mich. dry beans	16 ounce can	15.0	---	---	2.2	12.8	15
Corn, canned	2.49 lb. sweet corn	No. 303 can	19.0	---	---	2.4	16.6	13
Peas, canned .....	.69 lb. peas for canning	No. 303 can	22.7	---	---	2.9	19.8	13
Tomatoes, canned	1.84 lb. tomatoes for processing	No. 303 can	16.2	---	---	2.5	13.7	15
Orange juice concentrate, frozen	3.05 lb. Fla. oranges for frozen concentrated juice	6 ounce can	31.9	---	---	17.7	14.2	55
Strawberries, frozen .....	.51 lb. strawberries for processing	10 ounces	28.1	---	---	6.2	21.9	22
Beans, green, frozen .....	.71 lb. beans for processing	9 ounces	23.7	---	---	3.8	19.9	16
Peas, frozen .....	.70 lb. peas for freezing	10 ounces	20.8	---	---	3.0	17.8	14
Dried beans (navy)	1.00 lb. Mich. dry beans	Pound	17.4	---	---	6.4	11.0	37
Dried prunes .....	.97 lb. dried prunes	Pound	40.4	---	---	14.7	25.7	36
Margarine, colored	Soybeans, cottonseed and milk	Pound	27.6	---	---	6.7	20.9	24
Peanut butter	1.77 lb. peanuts	Pound	57.9	---	---	19.9	38.0	34
Salad dressing	Cottonseed, soybeans, sugar, and eggs	Pint	38.4	---	---	6.4	32.0	17
Vegetable shortening	Soybeans and cottonseed	3 pounds	80.9	---	---	24.1	56.8	30
Corn sirup	1.90 lb. corn	24 ounces	30.1	3.9	.7	3.2	26.9	11
Sugar	40.04 lb. sugar beets	5 pounds	68.2	24.8	1.2	5/ 23.6	5/ 44.6	5/ 35

1/ The methods of calculation and the sources of price data are given in Part II of "Farm-Retail Spreads for Food Products," U. S. Dept. Agr. Misc. Pub. 741, 1957.

2/ Product groups include more items than those listed in this table. For example, the meat products group includes veal and lower grades of beef in addition to carcass beef of Choice grade, lamb, and pork.

3/ This estimate of the farmer's share does not allow for Government payments to producers.

4/ Farm value of cream and milk only.

5/ Net farm value adjusted for Government payments to producer was 27.7 cents, farm-retail spread adjusted for Government processor tax was 41.9 cents, and farmer's share of retail cost based on adjusted farm value was 41 percent.